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I

HISTORY IN THE COLLEGE COURSE[1]

History has long been engaged in trying to find itself. That the results of the quest are contradictory arises from the essential nature of the object sought. History is not only man's past but it is what man from age to age has thought it was. The chronicler, rather than a series of events, has made history, and the chronicler has always been influenced by the period in which he lived. The ancients found in history the stuff of which literature was made; the Christian fathers discovered in it the proof of God's providence and His vengeance; to the Deists and rationalists of the seventeenth and eighteenth centuries it opened vistas of law and order and supplied examples in statecraft and the succession of empires; the evolutionary conceptions of the nineteenth century have added a philosophy and a pretense to scientific method. The method of history has been, then, at different times predominantly that of literature, ethics, law, philosophy, or science; and all these subjects have left their impress upon it, but the greatest of these, as being the most recent, is science.

The college instructor in history has always taken his cue from his colleagues in other departments, usually from the most aggressive. It was natural, therefore, that in the past

[1] Earlier articles in this series on college subjects appeared in the EDUCATIONAL REVIEW for April, May, September, October, November, and December, 1910.

few decades, he should have been tremendously bestirred by the chemists, the physicists, the botanists, and the like. But to frame general scientific laws to explain all of man's complex past staggered even Hegel's enthusiastic supporters, and so the historian tended to narrow down his subject to past politics,—dates, dynasties, governmental institutions,—a rough scaffolding about which future scientists might rear noble edifices for any kind of use. The unprecedented number and variety of political experiments in the nineteenth century undoubtedly encouraged the elect to repose great confidence in the efficacy of these political scaffoldings.

But of late the scaffolding has been giving way. Some timbers have stood the ravages of time, and those which remain have not been found serviceable for many building purposes. The college instructor in history has followed the university professor in gradually admitting that history, for all practical purposes, can not be treated as closely akin to zoology and mathematics, and he has found it more convenient to renew acquaintance, even tho a little sheepishly, with his old friends, the humanists. He is working out a synthesis of all the past aims of his subject. He is discovering that history is not only past politics, but also past society in its broadest aspects: religion, economics, art, philosophy,—what man has thought and said as well as what he has done. Our historian even suspects that he has claims on geology, biology, and anthropology. History is now science rather than a science; it is almost synonymous with knowledge. The teacher of history has gained the whole world.

The question naturally presents itself,—if the teacher of history has gained the whole world, will he be able to possess his own soul? Why should not politics, music, English, economics, sociology, present each its own past, and retire from college this universal and eternal thousand-eyed thing which we call history, whose other name is past knowledge? The reason is a practical one. Life is too brief for the college student to know the past of all his studies, and, besides, a thoro knowledge of Elizabethan lyrics is no more necessary for a sincere appreciation of Mr. Lowes Dickinson's essays

than a study of Athenian constitutions is for a grasp on the workings of the American Congress. It would be manifestly preposterous for every student to attempt to know the past of every part into which it has pleased the college administration to divide knowledge. It is sufficient if there is a kind of clearing house for maintaining a balance among the different branches. That is the fundamental scope of college history. The college instructor in history is the purveyor of selected miscellany.

We have come to the crux of the whole matter. What shall we select? How shall we make the most of the enormous field and the limited time at our disposal? Since the principle of selection must be determined in large measure by the end we have in mind, let us review these various aims for college instruction in history which have been urged at one time or another as tentative results of the search to ascertain what history is. In the first place, it is stated by some that a college course in history should consist of a drill in dates and names and should provide a suitable chronology for other courses. Others emphasize mental discipline; to them the study of the development of institutions, the memorizing of lists of officials, the juggling with cause and effect, constitute so many mental gymnastics which will enable the student more readily to solve problems in geometry or to detect logical fallacies or to translate Goethe. Then too, the idea is always advanced that a general course in history has some ethical value,—the "deeds of the brave men before Agamemnon" and other heroes, or villains perhaps, should be selected so as to inculcate in youth the virtues of courage, manliness, patriotism, peace, or anything else, according to the varying propensities of different days and diverse places. The "scientific" reaction has left to historical instruction yet another tendency,—to select a restricted field from the past and so to train the collegian therein that he may appreciate real scholarly methods and later apply them himself to other fields. Finally, we are told rather vaguely that a course in history is part of a general or liberal culture.

In judging the relative importance of these aims which are

to determine what course or courses in history we shall offer in college, we must remember that the college is quite different from the university; an advanced high school, it provides at once the general finishing academic training for a large number of young men who "go into business" and the specific training to enable another group of young men to enter professional schools,—teaching, engineering, medicine, theology, or law. From either of these purposes it is clear that it is not within the province of the college to produce trained specialists in any field. And let me say in passing that it would be better for all concerned if college courses were devised by college instructors rather than by university instructors, whose habits of specialization endow them with a kind of *amour propre,* so that they fail to grasp a sense of the relative importance of things and insist that their particular work must be part and parcel of the average college man's equipment.

The college courses in history, in conformity with the general purposes of the college, must aim to satisfy the elementary requirements for work in the professional and graduate schools and at the same time to prepare every collegian for taking an active and intelligent interest in the affairs of life, in the rights and duties of his citizenship. From the obvious generalization that everyone takes an intelligent interest in affairs proportionate to his knowledge of them, we may deduce the primary aim of college instruction in history,—to incite curiosity as to how things now are and in part to satisfy that curiosity by showing how they have come about. In a word, the purpose of college history—bear in mind that this does not imply university courses in history—is to explain the present. College history thus becomes frankly utilitarian. Its scope is determined by a more or less arbitrary selection of material, based on a realization of the relative importance of things. Its achievement will be a convenient foundation for study in more specialized and definite branches of knowledge and the consequent unifying and simplifying of our college curriculum.

By this fundamental purpose of college instruction in history, the value of the various aims mentioned above is to

be judged. It goes without saying that a teacher who would arouse the curiosity of his students must have a reasonable and vivid interest in the present. He must put himself in the student's place. He must ask himself precisely what references to the past are likely to be made in the courses in literature, politics, philosophy, art, and the natural sciences; then he will formulate his answers and patch them together in a mosaic as cunningly as he can; and, by way of example, the politics of the period of the Restoration in Europe brought into close juxtaposition to the romantic movement in literature and art and the revolution in commerce and industry will illuminate the statements of many of the historian's colleagues and provide for the student a desirable synthesis.

A certain amount of drill in dates and names is essential, not as an end in itself but as the cement in securing the mosaic. While the selection of names is a difficult and debatable procedure, chronology is an index to all manner of facts and an absolutely indispensable skeleton for the teaching of history. Mere names and dates have no inherent efficacy, —for their value depends entirely on purposeful selection and correlation,—nor can their memorizing be directed solely toward stimulating brain activity. There are doubtless degrees in the value of various studies as subjects of mental discipline, but a course which would not result in the student thinking more clearly and acting more sanely than he would do otherwise is not worthy of a place in the college curriculum. Every college course must both intensify and expand the mind, and history, from its very nature, is not least in these respects. To defend its powers of mental discipline would be, in fact, quite as idle as to declaim in favor of sunlight.

To what extent the college teacher of history is justified in using his material for ethical instruction is very uncertain. Of course, our comprehensive definition of history would include past ethics; and it would be as much within the instructor's province to explain the development of ethical standards as to trace the rise of parliamentary government. I take it, then, that our doubts about ethical instruction do not relate to the severe, objective statement of past attitudes toward

law. The difficulty arises when we judge these past standards by present-day conceptions. To offer one illustration; take such a question as the medieval attitude toward heresy. We do not approve of putting religious heretics to death in this age of the world, altho in most places we still inflict capital punishment upon murderers and traitors. Yet thruout the Middle Ages, heresy was lookt upon by the state as a crime worse than high treason or murder, and was treated accordingly. The wisest teacher will present these facts, because they are facts of importance in ethical and other history; but recalling that some of the noblest and most intellectual men of Europe condemned John Hus to be burned at the stake, and that, as a matter of fact, the world went on, went on immensely, at the very time heretics were being put to death, he will refrain from condemning the medieval attitude toward heresy or from judging it by any system of morality.

History, except in the most mature and advanced treatment with the mature university scholar, does not appear to be a particularly good field for ethical instruction as such. For college men, the teacher had better not concern himself very much with the drawing of moral lessons from history, for the reason that either the lesson does not need to be drawn or else the moral lesson is not at all clear. General college history should not be used to propagate any particular ethical system. And there are serious doubts about the competency of the teacher who feels compelled to answer such constantly recurring questions as whether the execution of Charles I was justifiable, or whether Bismarck did right in cutting down the telegram at Ems. "Teach the whole of history as far as possible, not any particular aspect of it, and do not make the history course the means for giving a more or less fragmentary, imperfect and distorted information about something which often masquerades under the name of ethics." This advice of Professor MacDonald[2] had its logical premise in Hegel's celebrated dictum, "What history and experience teach us is this, that nations and governments have never

[2] In the Annual Report of the New England History Teachers' Association, 1909.

learned anything from history, nor have they acted according to precepts derived from it. Every age has such peculiar circumstances, is such an individual condition, that it must be judged in this condition, and by it, and can only be so judged of."

The primary purpose of college instruction in history is to explain the present, to bind together the component parts of the college curriculum. Is this not simply a different way of calling undergraduate history a cultural subject of the highest value? In its very usefulness it is most cultural, and *vice versa*. Yet, if we admit this, we shall have to reject technical training in history as an aim of college instruction. It ought to be rejected. The belief that graduate and undergraduate students should be taught alike, that the best method for all is the method by which the scholar should be formed, that there is no distinction in the study of history between general and special preparation, is a heresy of modern days. To acquire a general knowledge of the human past is a large and worthy intellectual task for teacher and taught, indeed for the lifetime of a man. To confuse it with an effort to impart to the great mass of college students the method of the scholar, which is the proper technical training of the graduate school, is a pestilent blunder. The teacher of college history can truly broaden and liberalize his students by opening their minds to what may be called in simplest phrase the continuity of history, meaning thereby no mechanical continuity, but an organic and living unity—the continuous and cumulative progress of civilization which makes us today not in a poetic sense, but as a bald and perhaps a terrible fact, the heirs of all the ages. Of course the study of history along cultural lines does not imply the rejection of every form of technical training; certain mechanical devices as well as special habits of mind, which are constantly in demand in all study,—libraries, newspapers, the preparation of essays and bibliographies, some critical insight into the meaning of events,—can be supplied particularly well by college instruction in history.

We have now explained the chief aim of college history. It is both cultural and utilitarian. It at once explains the

present and reaches back into the past to seize upon such selected facts in the vast field as will serve to make the other college courses in specialized branches more convincing and more valuable. It does not exist exclusively for dates and names, tho these are vital means to an end. It does not supply ethics, except very incidentally. From university history it differs in scope and in method.

In trying to gain these ends, we at Columbia have laid special emphasis upon our general introductory course. History A,—as the course is called,—is a prescribed subject in the college curriculum, normally taken in sophomore year; and its scope is determined by our purpose to secure as many of the aims, or as much of each aim, of the ideal college instruction in history, as possible. The selection of material must be most carefully made, because nearly half the students in college take no other course in history, and what they get of that subject they must obtain from History A.

This prescribed introductory course deals with the story of the European civilization. It passes in review the heritage of Greece and Rome, Christianity and the Roman primacy, the barbarian invasions,—Germans, Northmen, Saracens; it follows the fusion and development of these diverse elements down to the twentieth century. It explains how we have come about. To tell the tale in the brief time at the teacher's disposal is the most difficult practical problem, to solve which requires ingenuity, patience, and bravery. No teacher will succeed with such a general course who treats its content as something sacrosanct and insists that whatever has once gotten into it must stay irrevocably fixt. On the contrary, the successful instructor will be ever ready to revise the course and transfer the emphasis in accordance with suggestions he will gather from time to time thru close association with his university colleagues in history and also in other departments. He will sacrifice the petty for the great. He will omit facts which are of interest or importance to but three or four members of the class. He will decide that, as a general thing, conditions are to be emphasized more than events. That is, the Conciliar Movement and the condition of the German peas-

antry in the sixteenth century are more important than the successive steps in actually achieving the Lutheran Revolution; and an analysis of the old régime in Europe and the reforming spirit of the eighteenth century are more illuminating than nice distinctions between Committee of Public Safety, Directory, and Consulate. Little time need be wasted on the supposed crises in history. Such conventional turning-points as 800, 962, 1453, 1492, 1517, 1789, 1870 are spectacular rather than truly instructive; the historians of nature place more emphasis on common things than on the buffalo and the aurora borealis,—why should not we?

Judicious omission, in fact, should be a cardinal virtue in arranging the content of an introductory course like History A. And for the practise of this virtue, a sense of the relative importance of things will confer needed grace. The only measure of relativity between events and conditions of the past is the present. An event is significant for introductory history, not because it is contemporaneous, or medieval, or ancient, but because and only in so far as it serves to explain present-day thought and deeds. Viewed from this standpoint, the remark of Professor Robinson that "the Middle Age affords the grand opportunity to leave things out," [3] presents a happy suggestion to the harassed college teacher of history for escape from a part of his difficulties. At any rate, most of the specific events of the Dark Ages from say 500 to 1050,—whose gloom it would be hard to overestimate,—can be safely omitted. There are likewise many phases and details of the dynastic and commercial struggles which filled the seventeenth and eighteenth centuries that can rejoice in the same peaceful retirement.

In judging the relativity of the past by the present, I do not mean to imply that the college instructor is to seize the novelties and passing fads of the hour and interpret history by them. On the other hand, our introductory course is too brief for any fads, and their elimination saves us time for other and more essential work. Professor Henry Jones Ford

[3] Professor James Harvey Robinson before the American Historical Association at Madison, Wis., December, 1907.

of Princeton has exprest himself to the point: "There is plenty to be done in the plain simple transmission of knowledge, and in the training of character. The object of the school is primarily the spreading of knowledge, and, along with that, plain virtues and proprieties of conduct which do not raise any abstruse questions of ethics. We have plenty to occupy our time and strength in the discharge of obvious duties, concerning which there is no dispute, and we should be on our guard against the people who try to direct our teaching in furtherance of some fad or theory." [4]

Thru neglect of material which has slight direct bearing on the present and thru the rejection of fads and fancies, an opportunity is afforded the teacher to make his introductory course in part what it should be, something more than narrowly political. There is space as well for recounting some social, economic, and intellectual achievement. There is chance to furnish a really useful introduction to other college work in the social sciences, perhaps in literature, art, and even in mathematics. As yet, however, we have not been able to bring the philosophical, literary, and artistic out of a subordinate position with respect to the political and social; nor am I optimistic that we ever shall so long as only three hours a week during one college year are devoted to the entire course. One solution of the difficulty would be for the college, after recognizing the importance of the matter, to expand the present course into two prescribed courses, exactly parallel, each of three hours a week, the one dealing exclusively with the political, social, and economic, the other with the intellectual and artistic.

To this sketch of the general content and scope of our introductory course in history, just a word should be added concerning the acquisition of certain elementary methods on the part of the students. No other course affords a better opportunity for giving at the very outset practical suggestions to the college man as to how to study,—how to take and classify notes from lectures and reading, to prepare a logical

[4] In Annual Report of the New England History Teachers' Association, 1909, p. 25.

outline, to select facts that are essential and to turn over pages which give the unessential, to cite an authority accurately, to distinguish a principle from a detail, to comprehend the definition of the ordinary technical words and phrases used. Then, too, this course should introduce the student to the library and show him how to get at the materials of history on their mechanical side,—how to become familiar with general library arrangements and to use card catalogs, bibliographies, and footnotes. Another important auxiliary study which our introductory course in history should promote is geography. The need is imperative, for the college entrance examinations have long demonstrated the uniform neglect of geographical instruction in preparatory schools; and I am venturing to express a conviction that while many college freshmen would know something about Delphi or Liverpool, more than half of them would mark Delphi in Asia and move Liverpool into the Scottish highlands. Finally, the ever-recurring comparisons and contrasts in the subject-matter of history will be pointed out by the instructor to the end of stimulating that healthy spirit of criticism, which, exercised increasingly thruout the undergraduate period, becomes in life the distinctive badge of the educated man.

College history by no means fulfills its mission thru the introductory course whose principles have been indicated. That course is fundamental: it satisfies in a very general way the primary aims of arousing curiosity as to how we have happened and of explaining the present; it is cultural and utilitarian in the broadest sense. But History A, from the very nature of things, can not supply details from particular periods which many college men should have. I am now referring not to the specialized and essentially graduate courses to which qualified college seniors and juniors are admitted, but to the purely undergraduate courses that combine with the general purposes of introductory history certain characteristic aims. And fortunate the college man whose schedule of hours permits him to go further than History A.

This more advanced college work in history has convention-

ally fallen into four principal groups,—Ancient, English, Modern European, and American. They are all cultural and general, true to the ideals of college instruction as distinguished from that of the university; but the first two are more technical than the others. Ancient history is intended to satisfy the legitimate interest in ancient languages, in philosophy, and in art. English history is the natural accompaniment to law and English literature. Over against these more or less restricted interests, the modern history of Europe and of America brings direct contact with today and concerns the future life-work of every collegian. It is hardly necessary to apologize further for teaching contemporaneous history in college. That there are disadvantages is undeniable. But if it be true that our propinquity to the men and the events of the present generation hinders us from forming a just estimate of them, it is equally true that we can grasp certain aspects of them with a clearness and intensity which inevitably fade away with the lapse of time. Some kind of grasp is essential, for I venture to believe that the average reader, whether in college or out of it, is likely to find his darkest ages to be the years since 1870, and even it may be those since 1815, and that, too, despite the fact that he is a reader of newspapers and a commentator upon current events.

We at Columbia have made certain experimental departures in the method of giving instruction in modern European history in order better to realize the aims which we have in view for college history. This experiment is proving successful in conduct and in results, and may eventually be adopted for instruction in contemporaneous American history. A few words concerning the experiment[5] may illustrate what has already been said about the general aims of college history.

Instruction in modern European history is given in two clearly distinct parts, which, however, interwork quite con-

[5] More detailed accounts of this experiment are to be had in a paper on "A college course in contemporaneous history" read before the American Historical Association at New York in December, 1909, and in an article on "Contemporaneous European history" in the *History teacher's magazine* of February, 1910.

stantly. As one part, the instructor meets the class twice a week and covers the general field of history of the eighteenth and nineteenth centuries by means of the usual routine of recitations, quizzes, textbook and collateral readings and essays. The other part of the instructor's duties is to conduct laboratory work two afternoons a week and supervise individual reading of current periodicals, in order to explain present-day European problems, with special reference to their history. Thus, at the same time we are working forward, following the chronological order of development, and we are working backward upon the same material from the standpoint of present interest. The student is concerned at once with things about him and with a meaning for the past.

The laboratory is the novelty in our experiment. A room has been set aside and equipped with chairs and tables, with necessary reference books, such as dictionaries, general histories of the nineteenth century, descriptions of the various countries, *Statesman's year book, Annual register, Who's who,* etc., with atlases and wall-maps, and with complete files of several of the most important European newspapers, as well as a few of the best American reviews. We also provide facilities for filing and preserving clippings on foreign affairs from the New York newspapers; and we have arranged to borrow from the general college reading-room whatever books we require that are not permanently in the laboratory. This laboratory is the most important factor in the success of the course. Students tell me that they now experience the same kind of satisfaction from working concretely and securing apparently tangible results in history as they have been wont to feel in biology or chemistry or geology. The returns seem as real and as definite and as rewardful from clipping newspapers as from cracking rocks or heating test tubes or dissecting rats and dogs.

The actual operation of such a laboratory has pointed out several possibilities for the future. In the first place, the course is susceptible of providing an excellent means of coordinating many elements in our complex college curriculum. Present-day European problems are not dissimilar from those

of the United States; and the readings in contemporary periodicals suggest the stuff of which economics and politics and the social sciences are made. It should not be long before the departments of European and American history, economics, and politics cooperate in equipping a large college laboratory for the social sciences, wherein the instructors of economics would explain to the students the economics they read, the instructors of politics would outline and criticize the constitutions of the world-powers, and the historians could fittingly show the historical setting of these things and encourage exercise of the critical faculty. And with increasing enlightenment as to what history really is, the time may come when our laboratory will open to the instructors in literature, in music, in architecture, and in philosophy.

Even now we have an opportunity for utilizing the study of the modern languages. Those students who have only slight knowledge of French or German affirm that they gain satisfaction from trying a practicable kind of translation; and the foreign newspapers are extensively read. I see no reason why courses in historical German and French should not be given by those departments in cooperation with the course in contemporaneous history. Instructors could be detailed to supervise the foreign reading, and the students would properly receive credit for work done at once in history and in modern languages.

A decided advantage of our laboratory method is the very practical use of sources. Our newspaper clippings and abstracts are made as historical records should be, in bare, simple, and concise form, easily tabulated; they are real materials of history. Our daily criticism of these materials,—comparisons between various accounts of the same event in different newspapers, and search for biased motives of presentation,—makes it possible for the student to read his newspaper intelligently. Our course acts as a corrective to unintelligent comment upon current events. Newspapers certainly play a most important rôle in our public life, and should therefore be a subject of special study in college. They fit admirably into our scheme of modern history.

All this college teaching in history,—whether the introductory course in a broadly general way, or the sequential courses in modern history in a specific way, or the special courses in ancient and English history in a somewhat technical direction,—aims to explain the present and to unify the college curriculum. Its definite contribution to the student's mental equipment, is, or should be, what I have repeatedly termed the critical spirit, the judicial sense which enables a man to weigh evidence, to compare and contrast, not to exaggerate this unduly, or underestimate that, but to act with reason, with common sense, with a mind free from partiality and prejudices, and to draw conclusions which are as relatively right as human nature may attain.

CARLTON HUNTLEY HAYES

COLUMBIA UNIVERSITY

II

THE EVILS OF OVER-TEACHING[1]

There is a proverb to the effect that you can not have too much of a good thing, and like most proverbs it needs a great deal of qualification. The change which has come over the spirit of education in England during the last half-century, or thereabouts, is a case in point.

Fifty or sixty years ago boys acquired what knowledge they possest mainly out of books. Latin they laboriously learned by repeating grammar rules, writing exercises, reading authors with a dictionary or a surreptitious crib. Mathematics they learned by doing examples out of a book and getting Euclid by heart; history and the like, so far as they learned them at all, by reading textbooks and being questioned on them. Teachers in the main contented themselves with taking care that the boys did their tasks, and occasionally explaining a difficulty in a textbook. No doubt they could and did do more if they were asked; no doubt a schoolmaster with a keen interest of his own in this or that subject could and did inspire his pupils with some of the same interest. But the point is that to do more was not then, as it is now, a necessary part of his business. The same thing held good, allowing for difference of age in the pupils, at the universities—I can, at any rate, speak from Oxford experience. There were a few admirable lectures given by professors, some dull and perfunctory ones; but hardly any college tutors dreamed of giving any.

THE GROWTH OF EXAMINATIONS

Then a change came over the spirit of teaching: how it began it would not be easy to say, but it made rapid progress.

[1] This suggestive paper was contributed a few weeks before his death to the London *Times* by the Reverend Hereford B. George, Senior Fellow of New College, Oxford.

Teachers came to deem it their business to give their pupils as much of themselves as they could. At Oxford, for instance, there were probably ten times as many lectures worthy of the name in about 1875 as 20 years earlier; and the same thing was happening in schools. From about the same date subjects found their way into the regular school curriculum which had hitherto been ignored, or at best permitted to the few boys who developed a natural taste for some pursuit which their school-fellows knew and cared nothing about. And this increase in the number of things required at the schoolmaster's hand rendered it still more convenient that he should instruct his pupils, instead of superintending while they learned for themselves. Influence in the same direction was exercised by the great increase in the amount of external examination to which schools were subjected. This was partly due to the legislation which recast the government of practically all endowed schools, still more probably to the increased interest taken by the public in education. People wanted some evidence that the schools were efficient, and this was conveniently afforded by external examination. The local examinations set going first by Oxford and then by Cambridge, the board established by the two universities jointly for the examination of first-grade schools, the matriculation examination of London University, to say nothing of others recently set going, were all open freely, and afforded some basis for comparing one school with another. This furnished an additional motive for teachers to try how far they could tell their pupils everything that they were expected to know. And this has probably been the chief cause, so far as my observation goes (and I have had a very long experience in examinations of all grades above elementary schools), which has led to the evils of over-teaching. At any rate, it is thru examinations that they are most easily seen.

MECHANICAL REPRODUCTION

It is easy to sneer at examinations, and it may be conceded that if teachers are ideally perfect and their pupils very

clever and thoroly industrious, they are an obstacle rather than an aid to progress. The world, however, does not consist of first-rate men only, and systems of every kind must be adapted to the average. Nor is there any other way of awarding prizes of all kinds, from university scholarships and posts in the Civil Service downwards, which is not beset by difficulties far worse than any evils that can result from examinations. Moreover, apart from their usefulness in stimulating industry, there is practically no other means of giving to school authorities, and to the public, some *data* for judging of the efficiency of the teaching. There is no doubt a tendency to lay too much stress on examinations. Schoolmasters find that success in them raises the reputation of the school, and it is necessarily the case that the more boys are entered, and the more subjects they offer, the greater will be the total score if they succeed. Given that the work of a school is organized with a view to an examination at the end of the year, the natural desire is to subject all of it to the same test. And it being obviously in human nature to do what "pays" best, both teachers and pupils will be apt to take less trouble about any subject in which there is to be no examination. If this were all, the resulting evils would be but slight, and even if thought to be irremediable, would be no great price to pay for the benefits resulting from a well-organized system of examination.

Unfortunately, this is not all; there is a worse evil, which may be encouraged by examinations, but is not inseparable from them or directly caused by them. Given the average teacher of the present day, who, seeing how poorly the profession is paid, except for the few who reach the highest posts, can not be expected, at any rate in lower-grade schools, to be a man of exceptional ability, but is yet full of zeal—given the average boy, who has no strong intellectual interests, who wishes to do what is required of him, but to do it without too much trouble—and the consequences of their cooperation may be predicted. The teacher talks to his class, the boys write down what he says, commit it with more or less thoroness to memory, and suppose that nothing more can be required

or even desired. In other words, they cultivate their memories. but do not exercise any other faculties.

The results are most plainly seen when they come to be examined, tho they would exist and be equally injurious if there were no examinations at all. A boy is asked in a history paper for the consequences of some event; down goes a narrative of it, which he has noted down in class, the teacher having happened not to call special attention to the consequences. He is asked to explain allusions in a passage from a prepared book; down go notes on its grammatical features, or *vice versa,* according to what he has happened to be told and to remember. And that this is directly due to over-much reliance on class teaching is obvious when one finds one boy after another from the same school doing the same thing in almost identical words. And misguided teachers will sometimes complain that a question was not fair because the boys could not answer it without stopping to think!

To give a concrete illustration. I remember some years ago taking part in examining a school which bore a deservedly high reputation. Among the papers which fell to my share was one given to the head form in English history. The work had obviously been very carefully prepared, and the knowledge shown was excellent. One question asked for a character of Strafford, and in every paper he was described in the same fashion. The teacher had obviously taken the moderate and sensible view which the large majority of those who know anything about history accept; and the pupils, tho they were not children, but averaging nearly 18 years of age, had obediently taken it all down. I am quite certain that when I was in the sixth form, while the average knowledge displayed would have been far inferior, the characters given to Strafford would have ranged from the hero and martyr of Divine right to the apostate and traitor portrayed in Macaulay's famous essay. That is to say, we should have formed our opinions for ourselves, with less knowledge to base them upon, but with something of spontaneity.

INSTRUCTION AND EDUCATION

This may serve to illustrate the point at which teaching is liable to become excessive. If it is thoroly skilful as well as zealous, pupils will not only acquire more and sounder knowledge, but will also be gradually trained to learn and to judge for themselves. Where zeal outstrips judgment the pupils will accumulate a considerable stock of information, and will have their powers of memory fully cultivated; but the tendency will be for them not to learn how to learn, not even to acquire the faculty of marshalling the facts stored in their memories, so as to use them effectively. After all, the acquisition of knowledge is only a part of education. Tho in point of time it is the first part, since memory is practically the only intellectual force to which one can resort in dealing with mere children, it is on the whole the least important part. Roughly speaking, guidance must be gradually substituted for actual instruction if the pupil is ever to be able to learn new things for himself. A man who possesses that power, which, like every other gift, needs to be cultivated in the right way, can do in life what circumstances require of him. He can, for instance, learn a new language, or grasp the meaning of new facts bearing on a scientific problem. Without that power he may pile up great quantities of information, but he will deserve the contemptuous title of a mere bookworm. So, again, unless he knows how to group, and thus to employ, the information he has, be it much or little, superficial or profound, he may as well not possess it, for he can not use it in life.

There can be no doubt that the new state of things in education is, on the whole, a great advance on the old. Exceptionally able boys could always help themselves, so to speak, but the way is made easier for them now, at any rate, for acquiring correct information. Idleness and stupidity can not be entirely conquered, but there is a smaller proportion than formerly of blank ignorance.

The large majority, however, both of teachers and of pupils, must always be of average capacity; and the more thorogoing

the teaching, the more knowledge the pupil will gain, and the more effective, if he escapes being totally dependent on what he is taught, will his performances be in examinations and in more important things. I remember a very successful college tutor, in the days when the new spirit was laying hold on Oxford, saying that the thing of which he was most proud was the number of second classes gained by his pupils—the first-class men could be relied on to prove themselves worthy.

It does not, however, follow that the newer methods are necessarily perfect in all points. The question is whether the average teacher can be made to see where his undoubted zeal may lead him astray, whether the harm that can be and is done by over-teaching is not really avoidable. Examinations are, as has been pointed out, something of a snare, as well as a virtual necessity, and on the whole, doing far more good than harm. But there is no reason in the nature of things why any one should fall into the snare, no reason why teachers should not realize thruout that education must be a gradual training of the pupils in doing things for themselves, as they must do in life, no reason why the mincemeat that is good for babies should continue to be the diet of striplings. What has been said of boys and their teachers applies also to the other sex, even more generally. At least, that is the conclusion to which observation extended over many years has led me, tho it would be obviously irrelevant to suggest here reasons that may account for any difference, which, after all, is only one of degree.

III

SOME DEFECTS IN OUR PUBLIC SCHOOL SYSTEM

There are not wanting signs of discontent with the results accomplished by our public schools. Readers of school journals and reviews know that particularly within the last two years there has been anything but satisfaction among high school teachers and principals over the courses in these schools, and they have even had rather broad hints that college courses are far from ideal. In the grammar schools, the defects appear more glaring; and because they affect so many more children, their shortcomings are more keenly felt. We have a great and enormously expensive system of education, and we base the hope of the nation upon its efficiency. The public certainly has the right to expect from this system approximately some such results as these: a preparation for earning a livelihood, the development of moral fiber, a fair degree of scholarship, or at least a desire to learn more after leaving school, an appreciation of the beautiful in art and nature, and a deep respect for the laws of the land. These results were promised the public when it voted taxes for the schools, and that they have been attained thru the agency of the schools in many thousands of cases can hardly be doubted. But it is pertinent to inquire if the school helps a reasonably large per cent. of children in these particulars.

One hears many protests from the business house, the factory, the farm, and from every form of industry, that the boys and girls come from the schools with little preparation for work. We are told that the schools have given the children an "education" which does not fit them to earn a living, and which even in some cases unfits them for this desired end. It is probably true that much of the preparation for work in those cases where they are able to take up work after leaving school has been received by the children outside of school hours and school influences. Our schools have in no sense

supplied the place of apprenticeship to work. If they have done anything in the way of preparation for life, they have done it in the vaguest general way, which may fairly be described as incidental. The boys and girls starting their careers as breadwinners may have some sort of education that will help them in learning a business or trade, but they must first serve an apprenticeship on low wages or none, before they arrive at the point to which the school is expected to bring them. Why are children in purely agricultural regions given the same course of study as those in mining regions or manufacturing centers? If the courses were planned with the view to help prepare them for life, there would be emphasis laid on those particular subjects associated with the life of the children. As far as school preparation goes, the boy from the school in the mining town or the manufacturing city is quite as well prepared to earn his bread on the farm as the boy from the rural school.

In the particular of moral training I can not see that the schools give any better reason for their being than in that of preparation for work. When the National Education Association, at its Cleveland meeting two years ago, published in its declaration of principles an article deploring the decadence of the morals of our country and earnestly calling upon all school officers to exert themselves to improve the low moral tone of the public, this pronunciamento was hailed by many as the harbinger of a new order; it looked as if the schools were alive to the danger, and something effective would be inaugurated in the system. Alas! this declaration was mere words, as far as effect goes, and might have been left out. A few "questionnaires" have been sent out, some statistics have been gathered, but nothing has been done to arrest the progress of the disease; the schools go serenely on in making a public with low moral tone. We hear it said not in defense, but in the way of boasting, that our great public school system promotes morality by encouraging and demanding punctuality in attendance, accuracy in work, honesty, respect for the rights of others, and subordination of individual good to community interest. It is trying to one's patience to hear these reiterated

boasts, when teachers know that the public school does none of these things directly. On the contrary, it encourages lying and cheating by its mechanical methods of promotion, it stifles self-respect by a kind of espionage, while its arbitrary rulings are not calculated to produce morality of any shape. However much the school may preach altruism, American youth has decided that is impracticable, and has little patience with the Golden Rule. As to respect for the rights of others, one needs only to compare the conduct of the American boy away from home for his holiday with that of boys of almost any other nationality, to realize how far short he falls in consideration for the feelings of others, and even in matters of ordinarily good breeding. Smartness and knowingness are his desideratum, not quiet dignity and self-control.

Even in the matter of scholarship, our schools can not make an enviable showing. I have happened to meet a considerable number of Germans who have learned English in their schools. Most of them can speak the language with fair fluency, can read it with ease, and do read a surprizing amount of good English literature. A very great number of our high schools require two or more years of German. I have yet to meet one of our high school graduates who has learned in the school to speak German intelligibly, or who can read any German books other than those he used as texts. It is hardly expected of the majority of high school students that the study of German or Latin or Greek will give them an insight into the literature of the language or the genius or history of the people. They have no time for reflection on the beauties of the masterpieces that they translate; their one thought is to do so many pages, make so many credits or units for graduation or college entrance. From time immemorial, we have gone on the assumption that a certain sort of gymnastic value attaches to the study of a language which is a sufficient reason for its place in the curriculum.

But we are told that the scientific courses in the high schools are really very superior. It is quite true that many city high schools are equipped with laboratories—physical, mechanical, chemical, and biological—that would have excited the envy of

universities in the middle of the nineteenth century. It is also quite true that in many of these schools excellent courses of instruction are given in several branches of natural science. Yet apart from those who continue the study in technical schools, few high school graduates get any considerable body of accurate scientific knowledge applicable to everyday affairs. These schools must have many thousands of graduates in the large cities owning public libraries, but we are told that an inquiry at these libraries will develop the fact that few scientific books are called for, and that the readers of such books are as often people who have had no high school education as those who have had it.

Our high schools give excellent courses in English literature. The visitor may, in almost any one of them, hear inspiring and illuminating lessons in literature any day in the week, and go away feeling that the students must go out into life with a love of good literature. But the public libraries must duplicate many times the "best sellers," while one or two copies of really serious books are sufficient to supply the demand. Can it be that the high school student has learned to associate serious reading with grades or promotions, and when he is free to choose his own reading he frankly prefers the "best sellers"? Or, possibly, his course in literature, that certainly introduced him to the best authors, and apparently awoke in him some taste for good reading, did not beget the power to express what he felt, and was therefore short-lived in its influence. Can this be the reason why students who are fairly started on the road to an education drop by the way, after the stimulus or goad of the school is withdrawn?

Any defensible system of education would provide some means for the cultivation of an appreciation of the beautiful. Our schools do try to cultivate a sense of perspective, of color, of design; they have also courses in music and harmony; one would think that there must come results from these. A story is told of a young American girl, who, having had some months of travel in Europe, and many opportunities to visit the best picture galleries, answered, when asked what she thought of the Louvre, "I did not see it"; when reminded by

a companion that she had visited the Louvre, "Oh, yes!" she said, "it was there I met Madge, who told me where I could get this piece of lace." If we think our children are acquiring a taste for beautiful pictures, let us contrast the eagerness for the comic supplement of the Sunday newspaper with the quiet, thoughtful study of good pictures by the crowds of children in a European picture gallery. In music, too, our public frankly does not understand or care for anything but jingles.

All are agreed that we must look to the public school for the making of citizens who will jealously guard the interests of the nation. Its basic function, then, is to create a reverence for law. Our schools have had a full century to mold public opinion; for at least half a century they have had the field practically to themselves, so that an overwhelming majority of our citizens must have come under their influence. Have they made the citizens respecters of law? It is doubtful if any other civilized nation can make so poor a showing in this particular. We do not respect our laws, unless we approve of them; we openly claim our right to violate those that we disapprove. Public officers charged with their execution plead inability to enforce them because of their unpopularity. There is a strong feeling that penalties for crime may be evaded, and when evaded, the commission of a crime is felt to bear with it no inherent turpitude. It is true that some sporadic efforts are made to teach children good government, as in the "school-city" plan, but this plan, not extensively used, is discredited, and possibly with justice, by some very high authorities. In all of the schools the children are taught civics with the purpose of making good citizens of them, but apparently with results as fruitless as those of efforts in other directions. The fact remains our laws are disregarded by many when they conflict with their private interests, and, what is much worse, there is a strange indifference on the part of our best citizens toward infractions of the law.

It is doubtful if there can be found a really accurate account of how our school system took its present shape. We know in a general way that the course of study has grown enormously in the past four decades, and that this growth

has been more by accretion than by a process of development. To the very simple course of the three R's, with some geography, there has been tacked on branch after branch, each one necessary for an up-to-date school; the system has been elaborated and complicated by series of reports and grades of promotion, until the school has become obscured by the machine. There are carefully prescribed the number of years, the number of days in the year, and the number of hours in the day, to be devoted to school work, and when the child has accomplished this amount of work he is turned out with an "education." From time to time we have found it necessary to add new subjects to the course. To do this we have been obliged to shorten the periods or else alternate the subjects, but never to diminish the amount of work in each subject. The teacher has felt the pressure and the child has felt it more keenly; there must be hurry on the part of both to get the day's work thru, and no time for practical application of the day's lessons. We have deliberately ignored the use of action as related to knowledge. The stimulus used by the teacher has come to be prospect of promotion to a higher grade. Go where you will, promotion has furnished the incentive for study thru the grammar grades, the high school, and the college. It is a rare occurrence to hear boys and girls discussing the literature of the language they are learning; it is most common to hear them comparing the grades received on examination papers. All the way thru the sign is taken for the thing signified; teacher and pupil must sometimes feel inclined to say with poor Stephen Blackpool, "It's all a muddle." Have we not imbibed in our schools the American spirit of hurry and rush? We hurry at our meals, our pleasures, our devotions, our business, and our schools, where we deny ourselves leisure for reflection, comparison, digestion, assimilation, and enjoyment.

One would be rash to the point of madness, in proposing to better the situation by dropping some of the subjects from the curriculum. However much this might relieve the pressure, there is really no need for it, but we might forbear cramming *all* this intellectual food into each individual, or, if each must

have every kind, we might give it in smaller amounts, so that some part of each subject might be assimilated. We might better follow the example of the Germans by differentiating the schools, having one kind for commercial, another for agricultural, another for trade education, combining in each school work with some sort of apprenticeship in the work to be followed by the child after leaving school. Possibly this or some kindred way would furnish the best means of making our schools really efficient in training children to earn a livelihood.

It would probably serve also to keep the children longer in school, and to bring more of them to the high school, for, if the work could be invested with some life, giving zest to it, children would not be in haste to drop it. It is a matter of common observation that many persons who have done something really notable in their spheres of action have had their schooling in a fashion that the modern schoolman would characterize as desultory. These leaders had leisure to think their thoughts free from the driving, irritating routine of an ordinary school.

The question may be asked, are schoolmen in a position to determine, without outside counsel, what courses of study should be prescribed? Would not a council composed largely of schoolmen, but having a balance of business and professional men, have a clearer vision of what constitutes an efficient school system? School boards do not act in this capacity; it is not even certain that their interference would not be resented. Our state boards, in many states at least, can only suggest courses of study; the school superintendents practically have full sway in this matter.

Is it not possible to devise some means for making our system meet the reasonable expectations of the public, who so willingly support it? Has not our great system become an unwieldy machine, too cumbrous to do the work demanded by modern conditions? Dare one ask the dreadfully radical question, would it be possible to discard the old machine for a lighter and more efficient one?

M. C. Wilson

State Normal School
Florence, Ala.

IV

THE EDUCATIONAL SYSTEM OF FRANCE

I have chosen this title for a somewhat wide field of observation, because it is precisely the *system* that most forcibly strikes an American, in French educational methods. Everything is systematized, from the infant classes of the communal schools to the great schools of medicine and law at Paris. The studies pursued are carefully systematized to meet a perfectly definite requirement—to attain most efficiently a given end. The school government is systematized to most effectually carry out this curriculum. The relations between the different grades of schools, colleges, lycées, and the universities are again systematized with equal care, and the career of each individual of the many thousands engaged in teaching thruout France is directed by a centralized power, in a way that is astonishing to one accustomed to our far more individualistic methods.

The central power directing this great system is primarily the minister of education, working with the committee on education of the chamber of deputies. These delegate certain of their responsibilities to lower officials, such as traveling inspectors, rectors of universities, and so on down. Thus we have a sort of educational hierarchy, that reminds one of the marvelous mechanism of the Roman Catholic Church.

Professor Barrett Wendell, in his delightful book on *The France of today,* describes with much admiration the working of this system, but he is chiefly concerned with the external management of it from an almost political standpoint. I should like to go a little farther on the pedagogical side, and show how the curriculum is arranged, what courses are open to the differing requirements of those in different walks of life and of different aptitudes, and explain the demands put upon the teacher, as well as the privileges before him.

The real bulwark of French education is the lycée. Professor Wendell roughly compares it to our preparatory school as to scope and method—but here he shows that he can not have examined as thoroly into the lycée as he seems to have into the university, and I must differ from him at once and radically. The lycée is quite unlike our preparatory school. It takes pupils at a much earlier age, and carries them, if they complete its course, to a point about equal to the beginning of the junior year in Mr. Wendell's own Harvard—and that by the time they are eighteen years old.

So much for its scope. As to method, there the comparison is harder, but I think, however, one must admit that the lycée is much more like our smaller colleges, at least in its higher grades, than like our usual preparatory school.

The full lycée course is divided into twelve classes. The boy (or the girl who goes to a girls' lycée) can enter the lowest or infant class, and this should be not later than his sixth year, so that he will graduate and attain his bachelor's degree at the age of eighteen. These classes are grouped as follows:

Infant class.....	one year
Preparatory course.....	two years
Elementary course.....	two years
First cycle	four years
Second cycle.....	three years

At the end of the elementary course, when the pupil is eleven years old, compulsory education ceases—but in general those who would leave so soon would not go to a lycée at all, but to a free communal school. Therefore, we may suppose the typical lycée student to continue thru the first cycle at least. At the end of this cycle, he has completed in a certain sense a fairly rounded group of studies; he is fifteen years old, and if it seems desirable, he can abandon further study fairly logically. To show the attitude of the French toward higher education, I may quote here the Minister of Public Instruction, who says: "It is to be desired that a certain number of pupils quit the lycée under these conditions (at the end of the

first cycle). It is a well defined end for those who have no taste for study, who pursue the classes with poor grace, and who compose in them a dead weight that hampers their progress." As a result of this weeding out, the standard of the second cycle is supposed to be materially raised, for it contains in the main only those who have a genuine taste for higher education.

Then follow the three years in the second cycle, during which the education is rounded off, the French limit of general culture studies reached, and the bachelor's degree is awarded to the eighteen-year-old boy, or girl. Study beyond that age and degree invariably means specialization in the universities, or in one of the technical or professional schools.

But let me return to the beginning of the secondary course proper. The child has presumably then past thru the infant class, the preparatory course, and the elementary course, and is about to enter the first cycle, properly speaking, the second great division of his education. It is interesting to see how the pupil is now allowed to adapt his curriculum to his tastes and destined occupation.

In this sixth year of study, which means, at the age of eleven, a choice is made between two courses, the "classic" and the "modern," which in a sense determines our young man's whole future career. If he is destined for the bar, or for one of the learned professions, or is simply going in for general culture, he will elect the classics without question. If he intends to enter business, or some technical calling, he will probably elect the modern course. Let us see what the minister of education thinks of this important choice between at least one classical study, and none at all. "The study of the Latin and Greek Classics," he writes, "has given to the French genius an incomparable lucidity, scope, and elegance. It is thru them that our philosophy, our letters, and our arts have shone with so bright a lustre, and it is because of this study that our influence has been so potent the world over. The humanities should be protected and fortified against all attacks. They are a part of the national patrimony." He adds: "The classic spirit is not, as some affirm, incompatible

with the spirit of the times. It belongs to all time, because it is the culture of pure and liberal reason, the search for simplicity, harmony, and beauty in all the expressions of thought."

After quoting the Chamber of Commerce as having pronounced in favor of classical study, he takes up the other side of the question, admitting the obvious necessity of a non-classical course to meet the totally new demands which our time imposes on the educated man. He says: "Today, we have a *double* problem in instruction—we ought, in the interest of the world of work as a whole, and of the proletariat itself, to prepare an illuminated and liberal élite, an aristocracy of the mind, which, raised above utilitarian considerations, can devote itself to disinterested researches and lofty speculations, and so safeguard the permanent and higher interests of the land. On the other hand, we must strongly equip our army of work," etc., etc.—and he ends by advocating different courses of practical education to meet the different demands of the time. But he insists that "the real social value of instruction lies less in programs and methods than in education considered broadly as the development of those intellectual and moral qualities which make for justice and liberty of mind; for an upright conscience and a strong will; and that it is only thus that it will properly fulfil its purpose in producing the man and the citizen."

I have quoted the Minister of Education at such length, because I think he voices the feeling of the majority of French educators, and he certainly reflects the spirit and ideals, for which France has stood for hundreds of years.

Having made their choice, the pupils of the first cycle remain for four years in the two divisions already named; but the classical division undergoes a subdivision halfway thru the first cycle, when the study of Greek is begun. So, in order to meet the growing tendency to omit Greek from even a classical course, it is made a three-hour optional for the two last years of the first cycle; those who do not take it having twenty-three hours a week of classroom work, and those who do, twenty-six hours.

At the beginning of the second cycle, a new grouping takes place. Those who have not elected Greek, but who wish to continue with Latin and philosophy, divide into two groups: the Latin-modern-language group, and the Latin-science group. There are thus four divisions: A, Greek; B and C, Latin; and D, purely modern, embracing modern languages, history, and science.

This arrangement continues to the end, altho during the last year it is possible for a division A man to drop Greek, a division B man may drop Latin; and both C and D divisions are supposed to concentrate particularly on science and mathematics, with no Latin even in division C. The same degree is conferred on a student of either of these four divisions, on the assumption that the Bachelor's Degree should be based on the actual amount of ground covered, rather than on its particular nature. There is, therefore, no distinction made in the degree between a classical and a scientific or modern language course, but it is expressly stated in the regulations that certain higher degrees, such as *doctor of letters,* can not be conferred on a man who has never studied the classics, and a partly classical course is a necessary prerequisite to both law and medicine.

The examinations for the bachelor's degree are conducted by specially appointed juries at the universities thruout France, and are extremely rigorous, being partly written and partly oral. The competing students are left to their own responsibility in the matter of passing, and, as the examinations cover the whole secondary course, and are all passed at once, it must mean a terrific ordeal. How different the European attitude toward conferring a degree is from our own, is shown by the fact that the professor in the lycée, while he gives his lectures with scrupulous elegance and thoroness, spends no time in any particular cramming of his pupils for the impending examinations—he does not "warm them up," as the French say, and the universities are certainly not competing with each other to see who can confer the greatest number of degrees.

The actual curriculum of the lycée is a remarkably well considered grouping and progressive development of subjects,

but such a wide scope of general culture as is demanded by French tradition results in a decidedly overcrowded day for the growing boy. At first it is not so bad; pupils under twelve are not allowed to work over seven hours a day, including study. Between the ages of twelve and sixteen, nine hours is the total permitted, but between sixteen and eighteen years, the curriculum calls for from twenty-four to twenty-eight hours of classes a week (exclusive of study), according to the group elected, and there is often added an optional course, such as drawing. This means that there can be extremely little free time during the waking hours, and lycée professors, with whom I have talked, admitted that the course was somewhat overcrowded, and allowed too little time for sports and physical development.

It would take too long to describe the curriculum in full, but a few extracts will give the key to the whole.

The infant course, beginning with children of from five to six, includes reading, the French language—oral and written (which is the first of many years of study of the mother tongue; to the Frenchman, perhaps, the most important branch of all), talks on general ideas about morals. *History,* being talks on the lives of great men, travels, etc. Simple notions about *geography.* Mental and written *arithmetic,* using weights and measures. *Drawing,* free hand and on ruled paper. Lessons about things—or an introduction to nature study. That is certainly a good beginning. Now let us see how the pupil has progressed by the time he is eleven years old, and has reached the end of compulsory education. Here is the program of the last year of the primary section.

Reading: Elementary grammar and analysis of sentences, declamation—spelling, composition, and writing.

Morals: Personal and civic—(lectures).

History: of France (General outlines of *World's history* have been given earlier).

Geography: Especially devoted to France, but outlines of *World's geography.*

Mathematics: Thru fractions, simple interest, and mensuration.

Nature study: Outlining most of the sciences in an easy and attractive way.

Drawing and *singing.*

That makes a fairly good equipment for the peasant's son who is to go no further. But for the more ambitious boy whose parents can afford it, the next four years of the first cycle are a real introduction to general culture. Suppose he is in the Classical division A. He will have had by the time he is fifteen,—

Lectures on *morals, civilization, society.*
French composition and *literature,* including the dramatists and more prominent prose writers.
Latin: thru *Cicero, Vergil, Sallust,* and others less important.
Latin composition.
Greek: Lucian, Xenophon, and extracts from Herodotus.
Modern Language (if English): Johnson's *Rasselas, The Vicar of Wakefield,* Hawthorne, Scott, etc., conversation and composition.
History: General, ancient, medieval, modern, with especial attention, of course, to the history of France.
General geography—usually studied in connection with history.
Algebra—thru equations of the first degrees.
Geometry—including the chief propositions of the circle.
Drawing—architectual—and free hand.

And finally, if he pursues his classic division to the end of the lycée course, he will be having during his last year the following strenuous, but certainly impressive, list of courses:

8½ hours a week of philosophy, covering: Psychology, logic, ethics, metaphysics and philosophy of: Plato, Spinoza, Leibnitz, Locke, Kant's Prolegomenon, etc.
Latin and *Greek:* 4 hours (optional), Cicero's Rhetoric, Extracts from Lucian, Thucydides, Aristotle, Theocritus.
Modern languages: 2 hours (optional).
If English, Ruskin, Carlyle, Keats, Byron, Kipling, etc.
History and *geography:* (3½ hours)—advanced contemporary history of Europe, Asia, and America.
Mathematics (2 hours)—Quadratic equations, graphic algebra, elementary analytic geometry.
Physics and *chemistry* (3 hours)—about the equivalent of our best high school course, the chemistry including some organic work.
Natural history (2 hours): Elementary physiology, elementary paleontology, elementary vegetable physiology.
Drawing (2 hours) optional.
Hygiene—12 lectures of one hour each.

To show how admirably a single subject is developed thru the whole twelve years, I will take the department of history,

which is particularly well organized, and, I confess, makes me blush for the generally very meager historical education in this country.

Infant class—Tales of historical personages. Tales of travel, etc.
First year preparatory—1 hour. More tales, and outline of national history.
Second year preparatory—1 hour. More tales, and outline of national history.
First year elementary (about 8 years of age, or 8th grade)—3 hours. Systematic French history down to Edict of Nantes.
Second year elementary (7th grade)—3 hours. French history continued down to Treaty of Frankfort, 1871.
First cycle (6th grade)—3 hours. Ancient history, Egyptian, Jewish, Greek, Roman thru Constantine.
First cycle (5th grade)—3 hours. Medieval European history.
First cycle (4th grade)—3 hours. Modern history from Renaissance thru Louis XVI.
First cycle (third grade). Contemporary history from the beginning of the French Revolution to today, including the actual situation of the various world powers.
Second cycle (second grade)—2 hours. More advanced treatment of modern history of Europe from the Middle Ages to 1700.
And for two classical groups A and B—2 hours. Ancient history from prehistoric times thru the fall of the Grecian States.
Second cycle (first grade)—2 hours. Modern history, 18th Century only.
For A and B Division—2 hours. Ancient Rome from earliest times thru the Empire.
Second cycle—(Classes of philosophy and mathematics)—3½ hours. Advanced contemporary history from the beginning of the Second Empire to today in Europe, Asia, and both Americas.

It is needless to say that a formidable teaching force, very thoroly equipped, is necessary to carry on such a curriculum. The requirements for a lycée professor are in fact most exacting. It is now practically necessary for him to have both his degrees of license, and the Agrégé, which means an amount of study equal almost to the doctor's degree, but without the exaction of a doctor's dissertation. He is thus a trained specialist in the department he is to conduct, and is expected to give his lectures and conduct his classes in as finished manner as any university professor, and that is saying a great deal in France, where form counts for so much. He teaches, on an average, twelve hours a week, and receives from 3,200 to 8,000

francs a year, according to his age and success. In addition to the regular professors, there are the *répétiteurs,* or tutors, who superintend study, do some quizzing, and supply the professors' places when they are ill or away. A répétiteur is generally a licencié, according to the actual practice, altho formerly he might be only a B.A. He receives only 3,000 francs, but may aspire to the full professorship, with an attendant increase of salary.

I have dwelt at such length on the lycée, because it represents the best and most modern in French education, but it is by no means the only type of school in France. There is also that most important group of institutions, the communal schools, located in every town, where the elementary branches are taught up to the eleventh year, as in our primary public schools. These schools usually give an additional three years for those who wish to learn a trade, and carry their public schooling a little higher. Then there are the collèges—which are really municipal lycées supported by the town, but under the direction of the state. They are not on quite so high a level as the regular lycées, their professors are apt to be a bit superannuated, and not so well equipped as their colleagues of the lycée; but the aim of the collège and the lycée are almost identical. There is at present a tendency for the collège to disappear or become merged with a regular lycée.

There are also church schools that have played a most important rôle in French education during the past. Today they are less important on account of the growing anti-clerical spirit in France, and the suppression of the monastic orders. There are several large schools, however, under church direction, and many old-fashioned, or titled, families of the *vieille noblesse* prefer to send their sons to them, rather than expose them to the somewhat free-thinking atmosphere of the government schools. Some of these schools are now quite fashionable, and rather copy the great English schools, paying much attention to football and other out-of-door sports.

Lastly, there are the industrial schools (like the *Realschulen* of Germany). These schools take pupils at about fifteen years of age, when they have completed the modern

division of the first cycle, and give them a three years' course of a more distinctly commercial and practical nature than the second cycle would offer them. The course is not intended to give the culture necessary for a bachelor's degree, it is more distinctly utilitarian, and so narrower; hence, at the end of the course, a diploma is awarded those who successfully pass the examinations; but they are not given a degree.

This brings us thru the schools of France, and their secondary education, up to higher education and the universities. Here again we find the same wonderful system, with its many admirable qualities, as well as with the defects that are sure to arise in any system controlled from a common center. The universities of France all look to Paris for direction and funds, and they are no more at liberty to compete with each other for pupils, or in the securing of the ablest instructors, than would be the different stations on a railroad line in securing local managers, or dispatching agents; it all rests with the central authority. This means that certain universities in less populous communities, or in a typical agricultural environment, are decidedly somnolent for want of an aggressive pushing from headquarters. The unfortunate professor appointed to such a post drones thru his courses with three or four youths as audience, and the few intelligent minds who may arise in the university's parish, so to speak, go to a more wide-awake intellectual center, and preferably, of course, to Paris. Few, indeed, are the professors from such a side-tracked institution who have enough of the divine fire to rise above their surroundings, make a name for themselves, and be ultimately called to Paris, the Mecca of all French intellectuals. Some of the provincial institutions, however, such as the universities of Lille, Nancy, and Grenoble, for instance, are decidedly wide awake and act as regular feeders for the University of Paris.

As Paris is the center of higher education, it naturally becomes the prototype of the smaller universities, and with fifteen thousand or more students, it is certainly most worth studying.

The two central departments of the University of Paris are

the Schools of Letters and Science, that together comprise the Sorbonne. Here all the non-commercial and non-professional courses under these heads are taught, and here are the great laboratories where researches of world-wide importance are constantly being conducted and published for the benefit of mankind. Mme. Curie and her laboratory for the study of radio-activity is part of the science department, altho located in another part of the town.

Professor Lippmann, the discoverer of color photography, is here directing the research laboratory of physics. The great Henri Poincaré lectures there, and so do many others as famous in their several branches.

The lectures are in the main entirely free, but one has to matriculate to attend certain smaller classes, and a fee is charged for those who work in the laboratories. The professor is a great man at the Sorbonne, and it is most impressive to see one of the really important ones, an Academician for instance, enter his classroom, preceded by an usher wearing a silver chain of office, and his assistants (if it is an experimental lecture), amid the enthusiastic applause of his hearers. Learning ranks very high in Paris, and the respectful, almost strained attention of the students in the classroom, shows how serious a matter it is to them; one realizes how much a man's whole fate depends on his success as a student in a country where scholarship is so much admired.

The prominent professors, just referred to, seldom lecture more than twice a week, and that but half a year, in many cases; but this course consists almost wholly in the man's original contribution to science or letters; its preparation takes an immense amount of time, and if he announces a new course every three or four years, it means practically that he is about to put a new book into the hands of the learned world. Such men never teach, of course, altho they may direct a research laboratory. What little teaching is done at the Sorbonne is in the hands of assistant professors, who may have to lecture twice a week thru the year, as well as conduct a quiz, or oversee laboratory instructions.

Still lower down are the préparateurs, who do the more

mechanical work of manipulation in the laboratories, and get ready the lecture-table experiments for the great man, who only directs and explains during his lecture, while his assistants perform the experiment. Consequently, such a lecture is a highly finished affair, delivered with a precision and elegance unequaled anywhere in the world, I believe; and the experiments, if there are any, are miracles of ingenuity and lucidity.

The student at the Sorbonne attends lectures, works in the laboratory, or reads in the library, and, after three years of this work, comes up for his "license." In order to be eligible for this degree, he must meet the requirements of the department he is working in. In science, for instance, he must present three certificates: one, let us say, in physics, one in chemistry, and one in mathematics, each certificate representing several courses. The examinations are partly written and partly oral, and altho not openly called competitive, are practically so, as the number of candidates to be passed each year is said to be privately issued to the examiners by the Minister of Education. This restriction is made to prevent a glut in the educational market.

Today, altho a "license" admits the holder to many privileges, government positions, and other callings, it is not enough for a position as lycée professor, and the aspirant to this honor must try for his Agrégé. There does not seem to be any definitely prescribed route leading to this degree, except that certain studies, such as pedagogy, are prescribed, for it is distinctly the teacher's degree. The examination is competitive, is held in Paris, and is extremely severe. Possibly only a dozen men may be passed from all of France in a given year, but these dozen are at once assigned to posts in the various lycées, by the Minister of Education. Such is the advantage of a paternal government!

At last, comes the doctor's degree, which is not necessary, unless one aspires to a university professorship. The aspirant must pass another set of examinations in the chosen subject, must show a decided maturity of grasp, and an originality of which the major and minor thesis are supposed to be evidence. These theses are defended before a jury of four professors, and

the public is invited to attend the ceremonial, which is faintly suggestive of a sort of intellectual bear-baiting. The candidate is seldom a very young man, and not infrequently he is in middle life, for his thesis must be a work of some importance, and is generally the result of many years of patient labor.

Grouped about the Sorbonne, like chickens about a brooding-hen, are the great professional schools of the university, of which those of law and medicine are the most important. Here the first degree to be competed for is the license, as at the Sorbonne, and later, possibly, the doctorate. They are fully as severe in their exactions as our leading law and medical schools, and the time required for a full preparation is about the same; rather longer, tho, in medicine.

The École Normale, a little further away from the Sorbonne, is now a part of the university, and is engaged only in the training of teachers, but teachers, indeed, worthy of the name. Some of the most illustrious names of French history are on its rolls, and the comparatively small number of men graduated each year are equipped more perfectly for their particular calling than the graduates of any other institution in France. Indeed, it has been claimed that the various academies of the French Institute are much too partial to École Normale men, in choosing a new member.

Outside the university proper are several important institutions that I ought at least to touch upon. First comes the Collège de France, a remarkable institution founded by Francis I, and intended to further advanced learning of too unorthodox or too specialized a nature to be properly offered at the university. There brilliant specialists receive life appointments to give one lecture course a year, the rest of their time to be devoted to the advancement of their chosen branch of learning. Regnault, the great authority on steam, was one of the most distinguished of the appointees of the last century, and a recent appointment of the Abbé Loisy, the noted "modernist," shows clearly enough the liberal spirit of the government toward this peculiarly favored institution. In fact, in many respects, it must be a sort of professional Utopia

with official duties practically non-existent, and not even examinations to annoy; for the collège is not a degree-granting institution.

The École Polytechnique is a school where the government trains engineers for its military and civil works, and the graduates are obliged to serve the government for several years after graduation. Like St. Cyr, the great military academy, it is very hard to enter, and the lycées offer a year of study, after their highest regular grade, to prepare young men in mathematics for these institutions, where mathematics and the mathematical treatment of science is a positive fetich.

Two important technical schools are the École Centrale and the École de Chimie et de Physique. The former is a true engineering school for electrical, civil, and mechanical engineers; the latter is more like a trade school, and is maintained by the municipality of Paris for the purpose of training practical experts in chemistry and physics. Its laboratories are splendidly equipped, and it is a matter of historical interest that the Curies made their first great discoveries in radio-activity in a sort of now disused shed in its central court.

I have named enough to give an idea of the types of the score or more institutions of higher learning situated in Paris, and it only remains to show how, for each and every type of boy of differing grades of intelligence, a pathway is open to all the success he is capable of attaining. As already explained, the peasant's son goes to the municipal school till he is eleven, and, if he chooses, three years longer. So far his education is free. After that he must pay for it, whether it be in a church school or government lycée, where tuition is about $100 a year. But, fortunately, there are prizes or scholarships, which entitle the winner to part or all of the lycée course. This harmonizes with the prevailing policy of limiting the higher grades of learning to those who show some promise. The rich manufacturer's son would almost certainly go to a lycée, obtain his Bachelor's Degree, and then, perhaps, to finish off, study "his law," as the jocular saying is, or perhaps go to the École des Hautes Études Commerciales, a sort of glorified business college. The boy of scientific or technical apti-

tude may aim for the École Polytechnique or the École Centrale, or he may leave the lycée at the end of the first cycle and enter one of the trade schools already mentioned. And finally the young scion of an ancient or titled family, who is not destined to work, may go to one of the fashionable church schools and finish with the law, or he may, just to quiet the fears of conservative parents, go to a church school until after his first communion, and then be transferred to the more vigorous, but somewhat anticlerical atmosphere of the government institution. But in justice to that much abused government, it should be stated that it is extremely liberal in providing Protestant, Catholic, and Jewish religious instruction in the lycées for those who desire it.

It must be admitted that French education *educates*. Whether it produces an all-around man as we understand him is another question; for it pays little attention to the social side of student life, or the sports we are so fond of, and the two or three periods a week of compulsory gymnastics are hardly the equivalent of our institution of football, for instance. But French education is intensely efficient in that it certainly succeeds in producing exactly what it aims to produce: a specialist thoroly equipped for some calling in life. If football were found to be a necessary prerequisite to some career, I have no doubt carefully planned courses in the game would be at once offered, and there would be less time wasted in talking about it than is often the case with us.

Where their system undeniably gains over ours is in the essential continuity of it, by which each year's work is a preparation for all the years that are to follow. This is a pedagogical advantage that is possible only when a choice of vocation is made early; and, as I have pointed out, this is almost invariably the case in France.

It is this general spirit of effectiveness that seems to me the most admirable in the French educational method. We can not, and should not, copy the system of any other country, but we should be broad-minded enough to recognize what is fine in systems other than our own, and where we find a method or idea better than ours, and fitting in with our own traditions or

needs, let us not be too proud to admit our inferiority in any particular, and to borrow even from the "effete" nations of the old world. France is constantly borrowing: she borrows ideas from the German gymnasia, from the great English public schools, and lately she has been copying some of our ideas in the laboratory teaching of elementary science, which she considers better than her own.

I do not presume to point out in what particulars we might advantageously borrow from France; but I am sure there are such points, where we are distinctly inferior, and where we could copy, or adapt her methods for our use, to our own very great advantage.

HENRY A. PERKINS

TRINITY COLLEGE
HARTFORD, CONN.

V

CAN VIRTUE BE TAUGHT?

"Can you tell me, Socrates, whether virtue can be taught? Or if not teachable, is it acquired by practise? Or, if it comes neither by teaching nor by practise, does it arise in men by gift of nature or in some other manner?" So spoke Meno, according to Plato's account, to old Socrates, long ago in that Fatherland of thought, Attic Greece. In the dialogue that follows, all the participants are evidently anxious to reach an affirmative answer; but each successive hope is blasted by the relentless logic of Socrates, and the conclusion, a tentative one indeed, is unfavorable. The two other dialogues in which the same question is most distinctly raised are no more encouraging: the Euthydemus refutes, and the Protagoras ridicules and denies, the teaching of virtue, at least as practised by the professional teachers, the Sophists; whose fame, we must remember, had then by no means fallen to its present low estate.

Certainly we have a strange paradox here: Socrates, who loved nothing so dearly as to teach virtue, who refused to save his life by promising to cease his teaching, and whose ambition it was to place truth and righteousness upon a basis of eternal reason,—this Socrates is represented in three separate dialogues denying that virtue can be taught, and attacking with all his keenness and satire the only men of his time who really profest to be able to teach it. And yet the paradox is not a serious one: we may take comfort at once from the greatest of the ethical dialogues, the Republic, in which no one stops to ask whether virtue can be taught, but all are bent on discovering just how it is to be done! The Republic is, indeed, the fulfilment of the hope voiced at the very end of the inconclusive, skeptical Meno,—"It is true, O Meno, that from

our present discussion it would appear that it is by divine favor that virtue comes to those who possess it; but we shall reach a clear and safe conclusion on the matter only when, before we ask how virtue may be attained, we first endeavor to discover the real nature and essence of virtue itself." And this latter question is, of course, exactly the central theme of the Republic.

The truth is that the Platonic attitude toward moral education is typical of the prevailing thought of serious minds in all periods; deep in his heart is an ardent interest in the problem, and a profound feeling that it must be soluble and must be solved; but he is thoroly dissatisfied with the methods of those who declare themselves teachers of virtue, he is perplexed by the apparent caprice of nature in the formation of good characters, and always falls into contradictions and obscurities when he undertakes a theoretical discussion of the subject. It is almost painfully interesting to find in the Meno the very same paradox that still greets the student of moral development,—that the best fathers so often have inferior sons; that neither heredity nor training seems to have any sure influence on the formation of the will.

So it has been since: parents and teachers have felt the old Hebraic conviction that if we only train up a child in the way he should go, he actually will not depart from it when he is grown up and leaves our hands; but the *how* of this training is so obscure and puzzling a problem that we fall back into the discouraging feeling that moral development is, as the Meno has it, dependent upon the inscrutable will of God, and *precarious* even in the worst sense of the word. Our own day shows hardly any increase in assurance, and probably none in agreement, on this vext question.

It is a notable fact that great educators and great movements have generally been inspired by the moral aim, and that the movements have as regularly declined to an intellectualistic plane. The very succession of Socrates, Plato, Aristotle, and the medieval realists and nominalists is a gradual descent from intense ethical fervor to intellectual pedantry. The humanism of the Renaissance, with all its faults, was at heart an ardent

effort to elevate life by setting up and illuminating an ideal of humanity: this is beautifully seen in such men as Vittorino and Melanchthon, Colet and Milton. But Sturm, with his Strassburg gymnasium, and Ascham, with his "double translation," have already begun the downward road, which by and by drops into the verbalism of the nineteenth century Latin grammar school, with its endless paradigms and Latin verses. The beloved classics from which Milton and Arnold drew for themselves and their pupils such priceless lessons in life, must today be bolstered up by the chimera of *formal intellectual discipline!* Pestalozzi and Froebel, whose names we love to honor, were consumed with the moral aim; but the elementary school hardly lifted its eyes from its lesson-books to glance at them, and their principles have been utilized mainly in the service of intellectual training.

It is pretty clear that all these gravitations from the moral aim are instances of movement in the direction of least resistance, and are due to that very obscurity and uncertainty that seem to mark the task of moral training. It is so easy to produce knowledge and even skill, and so hard to produce character. To test the work of education we may ask three general questions concerning the young human being emerging from its hands: "What does he know?" "What can he do?" "What will he do?" The first two are easily asked and easily answered: we *can* communicate knowledge with reasonable efficiency and assurance; we know fairly well how it should be done, and do not shrink from guaranteeing success; any good teacher would unhesitatingly agree to teach any normal child the essentials of intellectual training. Likewise the master-workman of any craft, or the expert in any profession, does not hesitate to undertake the training of an apprentice, and to guarantee, under reasonable limitations, to turn him out a competent workman.

So much for what the child is to know and what he can do: but who is so bold as to undertake to answer in advance the third question, that all-important, fateful, "What will he do?" Of that we with one accord begin to wash our hands of responsibility: character we dare not guarantee; how the child

will "turn out," what use he will make of the knowledge and the skill we have given him, to what ends he will apply the power our training has developed in him,—these are questions that no human foresight can answer, and no educational wisdom can pre-determine. We are quite accustomed to the miscarriage of all reasonable predictions concerning moral character based upon education, so that it hardly surprizes us to see a *magna cum laude* Harvard graduate leading downgrade politics, or a Phi Beta Kappa man handling corruption funds. No wonder, then, that the school should turn away from this game of chance to the surer, if much less inspiring undertaking of imparting knowledge or cultivating skill. And this in spite of ceaseless insistence thru all the generations of educational thought, that knowledge and skill are mere arithmetical quanta, whose effect for human weal or woe depends upon the plus or minus sign written before them by character.

Hence the profound disappointment over the results of popular education. Horace Mann said: "I believe in the progressive improvability of human nature; if we can only get the wheels [of education] into some sort of motion, great things may be expected." Since his day the wheels of education have got into motion, probably far beyond what he dreamed of; but the desired results have not come to pass: crime has not been abolished; law is not better enforced; politics has not been purified, and happiness has not become universal. Meanwhile the progressive forces of the world have become largely engrossed in social reformation, or, rather, new formation. Incorporation, legislation, administration, cooperation in all its forms, are the order of the day. *Social* has become a word to conjure with, and socialism, of all shades from the most innocent to the most rabid, permeates and colors thought.

Certainly no one need chide against the growing unification and copartnership of the race; yet we must be struck with the signs of the arrears of individual character. Law, the expression of the social will, is mocked by the caprice and insubordination of the individual will, whether manifested in crimes of violence or in the evasions of craft. We no sooner set up a new instrument of free government than the

forces of selfishness commence their assault upon it, and they do not cease until they capture it for their own ends. It is still true, as Aristotle taught, that the democratic polity demands a democratic type of citizen; the creators of imaginary commonwealths have realized that; Plato devotes a large part of the Republic to the education of the citizens; Aristotle himself planned in his *Politics* a chapter on education; Rousseau's *Contrat social* called for the *Emile;* even Bellamy's new order could be ushered in only by a sweeping moral revival that transfigured the characters of men and women. These all dreamed of Utopias; today parliaments and congresses and countless leagues and propagandas are creating them,—or rather creating their forms: forms which will but mock us, as Romulus Augustulus parodied the Empire, unless we can raise up individual men and women with moral character fitted to the ideals these social forms intend to body forth.

This, then, is the great educational crux: being able to determine knowledge and skill, who shall show us how to touch and pre-form the directing will? This is the educational problem of the ages, and every forward step in other fields, educational and social, lifts this into stronger relief and more urgent insistence. "This firm and unshakable will," says Fichte, "the New Education must produce, by a rule that is certain and admits no exceptions; . . . Hitherto good results [in character] have arisen thru the power of natural endowment, which overcame the influence of evil environment; certainly not thru education, for then all educated persons must needs have become good; evil results, on the other hand, have been just as independent of the influence of education, for otherwise all educated persons must have become bad. . . . Thus, so far as moral character is concerned, education has been merely futile, and not even injurious; the real formative power has been original spiritual nature. But from this time forth must the education of man be rescued from the hands of this obscure and enigmatical power, and put under the control of a rational art, able to compass its end in every individual intrusted to it,—or at least fully aware when it has not attained it, and therefore knowing that the task is not yet

finished. A certain and reasoned art of forming in man a firm and reliable good will,—such is the education I propose, and this is its prime characteristic." [1]

These are bold words: one hardly knows whether to be more astonished at Fichte's contemptuous charge of utter futility against the traditional education, or his daring challenge to the education of the future. Nevertheless, we can hardly deny that with respect to the past, he is guilty at worst of the natural exaggeration of a warm heart profoundly moved; and as to the future he has announced the only possible aim of moral education, a lower than which we dare not set without denying the destiny of man.

But here one question cries aloud: if the Past has failed so utterly, from Meno down to Fichte's time, to influence the will, why should we flatter ourselves with golden hopes of the Future? Are we wiser, or stronger, or more righteous than our fathers, that we should succeed in so great a task where they failed? Nor let us be deceived as to the kind of answer that will satisfy this question: no petty advance, no improvement in methods or equipment, no enhancement nor beautification of schoolhouses, no mere perfection of training in teachers, will suffice to turn the scale in our favor. Unless we can find some deep and far-reaching difference, that enables us, as it were, to stand on the shoulders of those gone before, we need not hope for any great advantage over them. Such differences do exist between present and past in other domains of human activity,—in the arts, in commerce, and, above all perhaps, in science, both pure and applied. And such a difference, we believe, exists in education, plainly visible to one who examines the evidence of educational theory and practise in our day and in the past, both ancient and recent. And this difference reveals the cause of the failure in moral education hitherto, and is the ground of hope for success in the future.

Not that we can agree with Fichte that moral training in the past has been utterly futile: in truth, much has been done well, along with that which has failed; if many a parent has

[1] *Reden an die deutsche Nation,* Zweite Rede, 15.

had to lament, "I have nourished and brought up children, and they have rebelled against me," many more have rejoiced in the fruits of their parental labor and devotion. The most serious failure has lain in not knowing how we succeed, nor why we fail: if we only knew that, we might easily improve our practise, and attain constantly higher results. Now it is just this that must be remedied; we must wrest from nature the secret of the cultivation of character, and so master the task of preforming the will. Mark that this advance from luck and "knack" and rule of thumb to accurate and reliable method is characteristic of modern success: industry, commerce, medicine, government, charity, are being reduced to scientific precision, and their performance is being rescued from chance, and put under the rule of law. Education is a great practical task, the most important of all that confront us, and in the very nature of things it, too, must be brought under the control of all-conquering reason.

The prime difference between the old education and the new is this, that the old education, while it knows much about the *end* of education, that is the human ideal, knows nothing about the *beginning* of education, that is the child: the strength of the new education is, not so much what it already knows about the child, but rather its clear vision of the child *as* the beginning from which all education must start. This difference is great enough to turn failure into success, bring clearness and certainty out of obscurity and fortuity, and give us a true theory and a sound and reliable practise of moral education. Rousseau, altho himself densely ignorant of the real child, nevertheless was a voice crying in the wilderness; he supplied a new principle in education by putting the child in the center of his discussion, just as Copernicus did in astronomy by putting the sun in the center of the solar system. Pestalozzi, Froebel, and modern "child-study,"—with all its faults—these are the torch-carriers, and the light they kindle will, not indeed immediately solve the problem of the education of the will, but for the first time make the solution *possible.*

We have said that the old education was ignorant of the

child and of the place of the child-nature in the problem of education. We need not go far back to find abundant evidence of this. Locke, the leading English philosopher of the seventeenth century, and one of the most admired educational writers of his day, may stand as a fair representative of the best and most progressive educational thought of his time; indeed, his educational teachings are still held in high repute, and have left a deep mark on both theory and practise since his day. Moreover, Locke is free from the peculiar limitation that often affects the professional schoolmaster, being physician, philosopher, and man of the world. Far be it from us to question the great value of his work, or the correctness of most of his statements, even about the child: the weakness we desire to point out is one of *omission* and *disproportion,* and of failure to perceive the meaning of the very facts he reports.

First, there comes to one's mind Locke's remark concerning the *tabula rasa* of the child's mind: his plan of education, he says, is "designed for a Gentleman's son, whom, being then very little, I considered only as *white paper,* or *wax, to be molded and fashioned as one pleases.*" [2] Unfortunate as this statement is, it would not be fair to hold the writer too seriously to account for it; Locke knew well enough really that the child is no *tabula rasa,* even at birth, to say nothing of later periods such as early childhood and boyhood. But even when he recognizes the existence of native tendencies in the child,—instead of finding in them the source of all the qualities that education seeks to cultivate, he looks upon them rather as hostile to his purposes, and so to be eliminated or suppress: Nature is to be "weeded out," "superseded," "mended," and "cured"; while good elements of all kinds are to be "imprinted," "instilled," "implanted," "laid as a foundation," or "put in as a principle." [3] "The next thing," says he in one place, "is carefully to consider his temper, and the particular constitution of his mind." Excellent! you say; this is the new education. But let us read on, and learn what

[2] *Some thoughts concerning education,* § 217.
[3] *Ibid.,* §§ 101, 102, 105, 110, 115, 117.

Locke immediately thinks of as the child's original endowment: "*Stubbornness, lying,* and *ill-natured actions* are not to be permitted in him from the beginning, whatever his temper be. Those *seeds of vices* . . . must be carefully weeded out . . . and your authority is to take place and influence in his mind, from the very dawning of any knowledge in him, that it may operate as a natural principle, whereof he never perceived the beginning." [4] Or again:

"I told you before, that children love liberty; . . . I now tell you, they love. . . . Dominion: and this is the first original of *most vicious habits,* that are ordinary and natural. . . . They . . . cry, grow peevish, sullen, and out of humor, for nothing but to have their wills. . . . They would have propriety and possession. . . . He who has not observed these two humors working very betimes in children, has taken little notice of their actions: and he who thinks that *these two roots of almost all the injustice and contention that so disturb human life,* are not early to be weeded out, and contrary habits introduced, neglects the proper season to lay the foundations of a good and worthy man." [5]

Such passages might be multiplied indefinitely, as examination of his *Thoughts on education* will show. With all his wisdom and insight, Locke sees in the child roots of evil in profusion, but can think of good only as being introduced from without. The only exception of any consequence is his recognition of the positive value of the native tendencies of *activity* and *curiosity*: "Curiosity," says he, "should be as carefully *cherish'd* in children, as other appetites suppressed." [6] As to activity, it is natural that Locke, the physician, should perceive the indispensable character of the child's native tendency to movement and exercise. But for one such recognition of value in nature he has a scorce of indictments against her.

Our next example shall be Herbert Spencer himself, who, like Locke, brought to his study of education great scientific and philosophical knowledge, and may be credited with summing up the most advanced educational thought of his time. Like Locke again, he has exercised the widest and most power-

[4] *Ibid.*, § 100. [5] *Ibid.*, § 105. [6] *Ibid.*, § 108.

ful influence upon educational thought and practise. From Locke to Spencer is a leap of a century and a half, with Rousseau, Pestalozzi, and Froebel between: on the other hand, when Spencer wrote his *Education,* the world still awaited Preyer, Perez, Sully, Hall, Baldwin, and the great "child-study" movement led by them.

Few books on education have had a more beneficent influence on the whole than Spencer's: its fallacies, which are not few, have fortunately been for the most part innocuous; on the other hand, it ushered in the natural science movement in the school, and threw invaluable light upon physical and moral training. Yet the most careful examination shows that Spencer failed to grasp the real principle of the new education. The most obvious evidence of this is that, in spite of his abhorrence of the theological dogma of natural depravity, he still inclines to the unfavorable view of the nature of the child: "We are not among those who believe," he says, "that all children are born good. On the whole, the opposite dogma, untenable as it is, seems to us less wide of the truth. . . . Tho imperfections of nature may be diminished by wise management, they can not be removed by it." He is much impressed with the *barbarous* element in early life: "As the child's features,—flat nose, forward opening nostrils . . . resemble . . . those of the savage, so, too, do his instincts. Hence the tendencies to cruelty, to thieving, to lying, so general among children. . . . The popular idea that children are 'innocent,' while it may be true in so far as it relates to evil *knowledge,* is totally false in so far as it refers to evil *impulses.*"[1]. (Italics are Spencer's.)

We wish to make quite clear what is the essential point here: it is not mainly whether the child is really as bad as Spencer paints him; the fatal error is the attitude that can see only or chiefly the so-called "evil," and hence puts the educator at war with Nature, instead of in alliance with her.

Closely connected with this is Spencer's failure to discern the *meaning* of the child tendencies that he does see and admire. This is well illustrated in some observations con-

[1] *Education* (New York, 1898), 164-5, 206.

cerning the moral development of two children whom he had known. The children "eagerly sought out plants" for their uncle, "looked on while he identified them," and one of them changed wonderfully from obstinacy to loving helpfulness, in response to wise and appropriate attitudes on the part of the uncle; all these facts Spencer sees, but he interprets them solely on the side of *method,* as illustrations of the right way to cultivate desired moral traits; he seems not to dream that they have a far more profound meaning as revealing the very basis and sole possibility of moral education, namely the living and reactive nature of the child.

Again we read: "In brief, the truth is that savageness begets savageness, gentleness begets gentleness. Children who are unsympathetically treated become relatively unsympathetic; whereas treating them with due fellow-feeling is a means of cultivating their fellow-feeling."[8] So much Spencer saw, and that he did see it is a testimony to his educational insight; but it was left for our own day to see beyond such isolated albeit weighty facts and perceive the great law of *suggestion,* perhaps the most important single organ of moral development and education in the human being.

But Spencer himself gives us a clear and authentic statement that bears on this point. In his chapter on moral education, after some preliminary explanations, he goes on "to the settlement of general principles"; he then sets forth at length his favorite doctrine of *discipline thru natural consequences,* in brief, that wrong conduct is to be eliminated by the suffering that it brings upon the doer. "Have we not here, then," says he, "the guiding principle of moral education?"[9] Now we are not concerned here at all with the truth or error of the doctrine of natural consequences, nor its value and limitations in discipline; the point for us is that it is *external* to the child, a matter of environment and the material universe, and that it is negative, repressive, inhibitory, calculated to cancel and eliminate bad impulses, but having no direct relation to good impulses. And yet this external, negative principle is Spencer's "guiding principle of moral education," so announced, and so treated thruout the discussion.

[8] *Ibid.,* 192, 204.

[9] *Ibid.,* 172f., 178.

It is hard to keep from feeling that this criticism of these great thinkers, whose work has so enriched and strengthened the theory and practise of education, is captious and impertinent; it is not so intended; the very selection of these two writers is due to sincere respect for their work, and the strength of the argument depends entirely upon their fitness to represent the best educational thought of their times. Furthermore, while educational theory has swept far beyond Locke and Spencer, educational practise is probably on the whole far behind them, and they still have invaluable lessons for us. Respecting our advantages over them in educational insight, we can have but one state of mind, that is gratitude and a sense of added responsibility.

Let us now turn to the consideration of the great truth that marks the New Education,—that is the conception of child-nature as the *promise and potency of all that may be hoped for in the mature man or woman, and therefore as the only datum and basis of education.*

At the very outset we should be quite clear as to the nature of our claim that this truth is distinctly modern; the fact is that no period has been without glimmerings of it, and *all* good education has been guided by it, even when the educator had little or no conscious grasp of it. Plato himself condemns the pretensions of the sophists to "put into the soul a knowledge which was not previously there, just as sight might be bestowed on blind eyes," and asserts on the contrary that "there is a power residing in each soul which is the organ by which we know." [10] Comenius, that great "lost stream" of educational wisdom, whose writings were buried for two centuries, was very near the ultimate truth in his constant insistence upon "following Nature"; only it was external Nature, as seen in trees, birds, beasts, and sunshine, that fascinated his attention. Locke and Spencer, themselves, had no mean realization of the inborn elements in the child, in spite of their misunderstanding. But, what in earlier times was "seen in a glass darkly" we see in new power, what to our predecessors was merely an incidental and minor detail is now revealed as a

[10] *Republic*, 518, C, D.

universal guiding principle, by the aid of which we may solve problems hitherto insoluble, and conquer tasks hitherto impossible.

Rousseau it was who first clearly enunciated the fallacy of the past, and proclaimed the truth: "We do not know childhood," says he in the preface to the *Émile.* "Acting on the false ideas we have of it, the farther we go the farther we wander from the right path. The wisest among us are engrossed with what the adult needs to know, and fail to consider what the child is able to apprehend. They look constantly for the man in the child, without thinking of what he is before he becomes a man." Then, with striking realization of his own limitations, "This is the study to which I have devoted myself, to the end that, even tho my whole method may be chimerical and false, the reader may still profit by my observations." Rousseau was himself a profligate and vagabond; his book on education was condemned by the Sorbonne, and publicly burned by the authorities, and his arrest was ordered. But all men read the book: even the philosopher Kant is said to have omitted his daily walk for three days,—an unheard-of occurrence,—to finish its perusal. In another sentence from the preface, "Begin then by studying your pupils more thoroly, for most assuredly you know nothing about them," Rousseau laid the course for educational advance from his day to ours, and no one can tell how far into the future.

After Rousseau, Pestalozzi, who felt deeply, but perceived dimly, many dawning lights,—the one we are studying, and others, social and ethical as well as educational. Then Froebel, the first clear and rational voice of the new truth. "God never grafts in the world of nature, nor is the soul of man to be grafted: but God develops the most minute and imperfect elements, thru ever-rising stages, according to a law eternally founded in itself, and ever unfolding out of its own nature." If the *Émile* is as it were the first great proclamation of the new principle, Froebel's *Education of man,* from which we have just quoted, is its first charter and constitution; and the Kindergarten, at least as Froebel

conceived it, is the first institutional embodiment of the new idea.

The actual attempt to carry out Rousseau's injunction, to study our pupils, is, of course, that worldwide movement of *child-study,* that has kindled such boundless enthusiasm among its adherents, and so much criticism and ridicule,—not quite all of it wide of the mark,—among those who do not see the real spirit, but only the novel and, sometimes, strange exterior. That the new movement has often gone to excess we need neither deny, nor wonder at, nor seriously lament; it was simply inevitable that so glorious a new hope should arouse enthusiasm somewhat too strong for cool reason always to control. The only cause for regret is that so many persons have allowed the freaks and foibles of the new movement to blind them to its real meaning and value. Fortunately both the vagaries and the superficial criticism occasioned by them are fast passing away: the study of the child has taken its place among the great permanent provinces of scientific knowledge, and what Preyer wrote fifteen years ago is coming to be universally recognized, that "the science of the development of the mind is the indispensable foundation for the theory and practise of education." [11]

One can hardly refrain here from noting with grateful appreciation two names from the scores of those who have led the new science: Preyer, the German physiologist, and Stanley Hall, the American philosopher and psychophysicist. Preyer was perhaps the first to carry the methods of science into the very nursery: "I have kept a daily record of my son's development from birth to the end of the third year. With two slight interruptions I busied myself with the child almost every day three times, morning, noon, and evening; and, moreover, shielded him as far as possible from the customary meddlesome treatment; consequently I found some psychogenetic fact to record almost every day." [12] One can not read even the preface of Preyer's book without feeling that it is a new and significant thing to see father and scientist in one person frequenting the nursery, bending over the cradle, noting the

[11] *Die Seele des Kindes;* preface to 4th edition. [12] *Ibid.*

first steady look of the vacillating eyes, scanning the random movements of the tiny limbs, eagerly expecting the first steps, recording with patient care the very babblings of infancy. Being scientist, nothing is too small for his notice; being father and humanist, nothing is trivial or insignificant, for every phenomenon is an item in the manifestation of the budding soul. He is, indeed, searching for just those "smallest and most imperfect elements" out of which, as Froebel tells us, God evolves the most beautiful and potent of created things.

To Hall belongs preeminently the credit of having made child-study as wide as the world of child-life: out of the nursery into the family, from home to school and playground, and into adult society and business, he has taught us to follow the child; nothing that concerns childhood can lack interest. The list of titles of his studies reads like a cyclopedia of childhood. As Pestalozzi and Froebel discovered childhood, Hall discovered *youth,* and perceived that, as infancy is the childhood of the body, so adolescence is the childhood of the spirit, and, hence, of quite unique import for moral education. Preyer said at the beginning of his work: "The mental life of man in its earliest stages is so wrapt in obscurity, that large numbers of investigators must work together to unveil it; the single worker can survey but a small portion of the field." Hall, more than any other man, has been the captain of industry in this labor: he has inspired unnumbered workers, of all degrees of scientific ability, from the humblest to the highest; many of the ablest of these have worked under his immediate direction, receiving their assignments from him, and carrying to high perfection the study and description of some minute part of the vast field, while he has compiled and organized the results.

The power and permanency of child-study are assured by its complete alliance with the leading movements in the thought of the day. It is, after all, part and parcel of the great evolutionary re-interpretation of the world, being simply an attempt to describe the ascent of man in the individual, just as the general doctrine of evolution deals with the ascent of man

in the race. The two phases are marvelously linked by the fact of *recapitulation,* the repetition by the individual organism of the stages thru which the race has past,—a principle the significance of which for education has thus far been only guessed at. The student of the child is thus the student of human nature, of man, following the general rule of modern thought that we can know of anything what it *is* only by learning whence it came, thru what stages it has developed; above all, if we desire to know whither it is tending, the answer must be computed from the path it has already traversed.

Again, child-psychology is indissolubly united with the best general psychology of the day, namely, that working under the psycho-physical conception of the human organism. So eminent a psychologist as J. Mark Baldwin,—himself perhaps the most profound philosophical interpreter of child-psychology,—tells us that the phenomena of the child-mind are in some respects more valuable to general psychology than mental pathology or animal psychology, either normal or pathological.[13] Thus there has arisen a firm mutual-benefit alliance between general psychology and the study of the child.

It is now time to see clearly how this awakening and enlightenment concerning the child marks a new era in moral education and opens the way for the solution of the problem that has baffled so many generations. First, then, our eyes are opened to the fact that child-nature furnishes the *data,* and the only possible data for the solution. The characteristic blunder of the old education is to thrust upon the child standards and ideals of thought and conduct that are far beyond his capacity and foreign to his nature; it is the effort to put old heads upon young shoulders and, what is worse, old hearts into young breasts. All this is inverted and, therefore, perverted: the new light teaches us to search in the developing human soul for the *growing points* of every virtue and excellence demanded of the mature man. Character is absolutely a growth from within outward, like any other organic

[13] *Mental development—methods and processes* (New York, 1903), p. 6, 7.

development, and the possibility of moral education is dependent upon the discovery in the child of all the necessary original tendencies.

All this, however, would lead to despair instead of hope, unless we had also gained a new insight into the richness, power, and beauty of the native endowment of the normal child. The fallacy of the conspicuous has played havoc with our ideas of what children are really like, for their mischief, pugnacity, petulancy, and the like, strike us in the face, as it were, disturb our serenity, derange our plans, and in general usurp our attention. Two children play together in happy and loving concord for hours, and the mother, engrossed with household tasks, thinks nothing of it; then some apple of discord drops between them, there is a sharp angry conflict, not without personal encounter, and the mother's even tenor is rudely broken. One disobedience or untruthfulness sinks deeper into our minds than days or weeks of obedience and candor. In countless such ways have we as parents and teachers,—and possibly even more as on-lookers from without the circle,—allowed the occasional annoying clash between the child's will and our mature ideals to blind us to the rightness and beauty of his general tendency.

Indeed, we are beginning to see that even what we blame in the child is often right in itself; Goethe foreshadowed much modern insight when he declared that in every fault of the child lies hidden the uncorrupted germ of a virtue. Destructiveness and meddling mature with proper training into constructiveness and industry, teasing inquisitiveness is but the infancy of science, and even pugnacity and obstinacy are the crude forms of virile and dynamic character. Typical of our day is the new view of the "bad boy," or, rather, the conviction that in the nature of things there can be no such thing as a bad, but only an unfortunate, child. What have not Judge Lindsay and the founder of the George Junior Republic discovered of potential righteousness in the hearts of incorrigibles and juvenile delinquents? In brief, we are taking to heart in our contemplation of the child the Apostle's injunction, to think on the things that are fair and lovely, and of

good report, and we are rewarded by finding the child's soul rich in these sources of character.

Nor is this strange: the native tendencies of the child, his ceaseless activity, his eager interest and inquisitiveness, his fondness for acquiring and possessing, his passion for constructing, and, above all, his ever-springing love and affection for those about him,—these are neither more nor less than the forces that have made man and human life what they are; out of these tendencies have sprung the arts and the sciences, poetry and painting and music, commerce and politics, and likewise the ideals of a righteous life and character. The child comes into the world with his face turned toward Jerusalem, bearing in his dim unconscious nature the indubitable foreordination of a divine-human life. What else but this can be the meaning of the word of Jesus concerning the child, "Of such is the Kingdom of Heaven"? These are the data of moral development, and our recognition of their existence and our reverent and patient study of their nature is the new hope of moral education.

Not that we are to discard or forget one word of the old truth concerning the human idea as the *aim of education*: this is still the goal toward which all our training must move. There is perhaps some danger that our enthusiasm over the new-found value and beauty of childhood may distract our attention from its immature and tentative character. Youth is, after all, but part of the whole that God planned, and, in spite of all its charm, not the best part, except when maturity falls tragically below its possibilities.

The most indefeasible of the rights of the child is the right to grow into a man or woman, with character and experience worthy of the best promise of early years. The child is always *en route* from the weakness, caprice, and irrationality of childhood to the strength, considerate will, and clear reason of maturity, and education must not remit for an instant its gentle, wise, and resolute assistance in the forward movement. For us now to lose sight of the aim of education would manifestly be more fatal than the ignorance of the old educators concerning the beginning, for they at least knew whither

they desired to lead the growing soul, and not seldom their tact and practical insight largely atoned for lack of clear knowledge concerning the nature of the child. But now both factors in the problem are revealed to us, the data and the desiderata,—what is given to us in the child, and what is to be achieved in the developed man. We must, as it were, look from one of these to the other; seeing each clearly, measuring the distance and the course, planning the route, calculating the difficulties and the means to overcome them.

Yet a final word of caution, without abating one jot of the hope: from even the finest endowment of a child to developed human character is truly a long road, beset at every point with dangers. Unfortunately, too, there are tendencies in the child that look backward: the "ape and tiger" have not entirely died out of our heredity. Moreover, moral character in the individual as in the race is the very peak of achievement, and hence moral education is the acme of difficulty. The new light on moral education has not abolished, but rather more fully revealed, the complexity and difficulty of the task. To compass any great success all sorts of forces must be reckoned with: not only home and school and church, but also street and shop, theater and dance-hall, politics small and great, and the vast powers of the press. These are educative forces, whether we will or no: the only way to deal with them is to make them into good educative forces. Fortunately, Man has never lookt for easy tasks, but has always loved to measure his powers with seeming impossibilities. The world is alive with signs of new interest and increased activity, and we dare not doubt that the age-old question is moving forward to successful answer.

EDWARD O. SISSON

THE UNIVERSITY OF WASHINGTON

VI

PROFESSOR S. H. BUTCHER

The death on December 29, 1910, of S. H. Butcher, M.P. for the University of Cambridge, is so serious a loss to classical scholarship in the English-speaking world, and to the highest type of public service, that it is a sad pleasure to reprint from the London *Times* the obituary sketch of Professor Butcher, which appeared in that newspaper on December 30 last:

Samuel Henry Butcher was the eldest son of Samuel, late Bishop of Meath, and Mary Leahy, a member of a well-known Kerry family. He was born on April 16, 1850, his father being then professor of ecclesiastical history in Trinity College, Dublin, a post from which he was subsequently promoted to the Regius Professorship of Divinity. Butcher's early years were, therefore, spent in Dublin, or at Ballymoney, in County Cork, where his father held a college living. When, in 1866, Professor Butcher became Bishop of Meath the family removed to the episcopal house at Ardbraccan, on the banks of the Boyne. For the next ten years this was the boy's home. He threw himself with zest into country sports, and became a keen rider and good horseman.

In 1864 he went to Marlborough, and shortly afterwards won a senior scholarship. It was the first step in a brilliant career. He speedily displayed his remarkable capacity for languages, winning many distinctions, especially in Latin and Greek composition. As he rose in the school and came more under the influence of the headmaster, Dr. Bradley, his capacity rapidly developed. In later life he set the highest value on Bradley's teaching in the sixth form. With Kennedy of Shrewsbury and Thring of Uppingham, Bradley shared the distinction of being one of the most stimulating headmasters

of his day; and Butcher frequently acknowledged his debt to what he called his teacher's "inspired invective." His work did not prevent him from taking his full share in games; he became not only senior prefect, but captain of football. In 1869 he finished his school career by winning an open scholarship for classics at Trinity College, Cambridge. To his old school he always remained faithful. He often visited it to give an address or to take part in Prize Day celebrations, and he served on the council from 1896 onwards.

CAMBRIDGE AND OXFORD

Entering the university in the autumn of 1869, he soon found himself encircled by a brilliant group of friends—Edmund Gurney, A. W. Verrall, Walter Leaf, James Ward, F. W. Maitland, T. O. Harding, Frank and Gerald Balfour, F. H. Jenkinson, and others. Several of those were members of the "Cambridge Conversazione Society," commonly known as "The Apostles"; and this connection brought him in contact with older men, such as Henry Sidgwick, R. C. Jebb, Henry Jackson, F. Pollock, J. F. Moulton, James Stuart, etc.

> All sorts of opinions [says one of the most intimate of his younger friends] were reflected in the society, but in our day the general tone of thought inclined to the materialistic side. Henry was decidedly more orthodox than the majority. I believe that, up to the time of taking his degree, his idea was to take Orders; nor have I any reason to suppose that he changed his intention by reason of any theological difficulties. His character was at college what it remained thru life—eager and strenuous, but absolutely unassuming, and always deeply affectionate.

Already regarded as the finest classical scholar since Jebb, whom he resembled in the character of his scholarship, he by no means confined his attention to the classics. He had, it is true, little interest in science, and not much taste for art; but all that is most "humane"—especially literature, philosophy, religion, and politics—attracted his keen attention. He took, however, no share in the debates at the Union; and a dislocated shoulder prevented him from playing games. His honors at Cambridge included the Bell scholarship (1869), the Wad-

dington scholarship (1871), the Powis medal (1871), the Senior Chancellor's medal (1873); and he completed a triumphant university career by graduating as Senior Classic in 1873, with two men—Page and Verrall—bracketed second, either of whom would have been an exceptionally good senior in ordinary years. A year later he was elected to a fellowship at Trinity.

At Cambridge he resided but a short time, for, under the unreformed statutes, his marriage (1876) to Rose, youngest daughter of the late Archbishop Trench, necessitated the vacation of his fellowship at Trinity. But his old headmaster, now Master of University College, Oxford, seized the opportunity of enlisting his services. He was elected to a "married" fellowship at University, and held this, with a lectureship in classics, for the next six years. Oxford society was just beginning to undergo a great change, thru the introduction of married tutors and of university education for women. The Butchers, the Creightons, the Arthur Johnsons, the Henry Pelhams, the Humphry Wards, and a few others, formed a group of friends who met almost daily, and contracted lasting ties. His chief intimates among the unmarried dons were Louis Nettleship, A. C. Bradley, and Arthur Acland. Alfred Milner, then on the *Pall Mall gazette,* was also a frequent visitor.

Butcher's teaching speedily made its mark; his scholarship, as sound as it was brilliant, his infectious enthusiasm for Greek literature, his powers of lucid exposition, combined to make his lectures instructive and inspiring. Nor was his contact with the junior members of the University confined to the lecture-room. At his house in Bradmore Road many of the brightest spirits of the undergraduate world found a warm welcome. Among such younger friends were J. W. Mackail, Cecil Spring-Rice, Clinton Dawkins, and Thomas (now Lord) Farrer.

University reform was then in the air; Lord Salisbury's commission was sitting; and changes in university and college statutes were debated in every common-room. In the settlement of what Matthew Arnold somewhat contemptuously called "machinery," Butcher does not seem to have taken a

prominent part, but the five years' discussion of such topics must have familiarized him with the subject of academical organization, and stood him in good stead when he was called upon to take a leading share in the reform of Scottish and Irish universities. He interested himself also in the promotion of women's education, and was from 1879 to 1882 honorary secretary to the Council of the Association for the Education of Women in Oxford.

It was during his residence at Oxford that he published, in collaboration with Mr. Andrew Lang, the well-known prose translation of the *Odyssey* (1879), a book which, from its literary charm and the consummate mastery of two languages which it displays, has contributed perhaps more than any other single volume to the recent revival of interest in Greek studies. Two years later he published, in the *Classical writers' series,* an admirable short life and criticism of Demosthenes.

THE EDINBURGH PROFESSORSHIP

These works, together with his reputation as a scholar and a teacher, procured in 1882 his appointment to the professorship of Greek at Edinburgh, vacated by Professor Blackie. He found the department in an unsatisfactory condition, and the Greek class somewhat out of hand; but the gifts which had distinguished him at Oxford speedily enabled him to reduce his students to order, to instil new ideas of application, to raise the level of scholarship, and to place the whole study of Greek in the university on a better footing. The particularist feeling, which was at first inclined to resent the importation of a "southron" into the Athens of the North, soon died away. Recognized not only as an inspiring teacher, but as a wise counselor in all academical affairs, he rapidly acquired a leading position in the Senatus and, after the reconstitution of the University, in the University Court.

One of his most distinguished colleagues writes:—

> As time went on, the Senatus benefited by the experience he had gained in other universities; and, on many occasions, his advocacy of modifications in the conditions under which studies leading to a Degree in Arts

should be pursued greatly imprest his colleagues. The interest which he showed in this direction naturally led him to take an active part in the discussions which took place in the University during the agitation preceding the introduction of the Scottish Universities Bill (1889). In this manner he became well known to public men and others interested in the progress of University education in Scotland; and, when the Bill was passing thru the House of Commons, he was nominated by the Government as one of the Commissioners empowered to frame ordinances for bringing it into operation. His colleagues on the Commission, of which he was the only professorial member, greatly profited by his advice in connection, not only with questions touching the general culture and training of students aiming at the Degree in Arts, but also with those concerning Degrees in other Faculties. As the Commissioners had to consider an important change in the administration of each University, which involved the transference of the property from the Senatus to the University Court, as well as the mode of payment of the professors from students' fees, the experience which Professor Butcher had gained since his appointment to the Chair of Greek was of great service to the Commissioners, and assisted them materially in putting their ordinances into practical shape.

While at Edinburgh, Butcher not only became a prominent figure in the society of the Scottish capital, but habitually cultivated a personal acquaintance with his pupils, and strove to bridge over the gulf which, till recently, separated the older and younger members of a Scottish university. In these efforts, as at Oxford, he was greatly assisted by the conversational powers and social charm of his wife; and their house in Palmerston Place became a center of all that was best and most cultivated in that mixt academical, professional, and civic society which forms the chief attraction of a residence in Edinburgh. Among his closest friends were Professor and Mrs. William Sellar; and Mrs. Sellar's charming *Recollections* contain many delightful references to their intimacy. He began also at this time to throw himself actively into politics, speaking at public meetings, taking a leading part in the organization of the Unionist Party, and especially assisting his friend Lord Selborne, who represented West Edinburgh from 1892 to 1895. It was the danger of Home Rule that thus drew him forth from academical seclusion; and in the conflicts to which it gave rise he first proved and strengthened his gifts of oratory and widened his grasp of political issues.

But these occupations were not allowed to interfere with his

academical duties; and, amid the engrossing labors of a Scottish professorship he found leisure for research. The chief fruit of this was his classic edition and translation of Aristotle's *Poetics* (1895); but he also published a volume of essays and addresses, entitled *Some aspects of the Greek genius* (1891), in which he brought home to a large number of readers the wisdom and the charm of the highest Hellenic culture. In 1902 he had the misfortune to lose his wife; and Mrs. Butcher's death loosened the ties which bound him to the place where he had chiefly lived and worked for twenty-one years. In 1903 he resigned his professorship and took up his abode in London.

In that year he published the first volume of his critical edition of Demosthenes (Clarendon Press), the second volume of which appeared in 1907. A visit to America resulted in the production of a volume of *Harvard lectures on Greek subjects* in 1904. He had already been made a member of the Royal Commission on University Education in Ireland (1901), and took a prominent part in its discussions. The report of the commission on this thorny question, tho it proved abortive, undoubtedly paved the way for a settlement; and the value of Butcher's services was recognized when he was appointed a member of the later commission in 1906. The scheme ultimately embodied in Mr. Birrell's Act was not precisely what he desired; but, in his anxiety to do all in his power to promote higher education in Ireland on a broad and liberal basis, he accepted a place in the Senate of the new National University, and thenceforward took an active part in its proceedings.

IN PARLIAMENT

On the death of his old friend, Sir R. C. Jebb, in 1906, he was, without opposition, elected to fill his place as senior representative of the University of Cambridge. His maiden speech was made on the Irish University Bill; and his closely-argued but impassioned appeal in favor of a measure designed to give to his Roman Catholic fellow-citizens the benefits of higher education, of which they had hitherto, for whatever reason,

been deprived, not only won the warm approval of Irish members, but established him in possession of the ear of the House. He spoke comparatively seldom, restricting himself for the most part to educational and Irish subjects; but he always spoke with effect. He was an uncompromising opponent of Home Rule in all its forms; and this attitude, combined with his courage in exposing the injustices and cruelties perpetrated in its name, speedily forfeited the Nationalist sympathy which his first speech had gained. But even his bitterest opponents were fain to listen to him. A member of the late Unionist Cabinet writes of him as follows:—

> He made his mark in the House of Commons, and retained his hold on that Assembly, by a rare combination of gifts. He conveyed with perfect lucidity a complete mastery of any subject, however complicated, on which he chose to speak; and he doubled the effect of his intense sincerity by a personal charm which conciliated opposition and won attention for the cause he had at heart.

SERVICES TO SCHOLARSHIP

But neither his Parliamentary duties, in which he was most assiduous during the long sessions of 1906-9, when he was one of a small and overtaxed minority, nor his work on the Irish University Commission, exhausted all his energies. When the British Academy was founded in 1902 he became one of its original members; and, on the resignation of Sir E. Maunde Thompson in 1909, he was unanimously elected president. In 1908 he was appointed a trustee of the British Museum. He took an active part in various beneficent enterprises, such as the League of Empire and the Victorian League, the Hellenic Society, and the School of Athens; and he was specially instrumental in originating and organizing the Classical Association. He was one of seven signatories to a circular issued in 1903, which resulted in the establishment of that influential body; and from that time onwards (says one who worked with him thruout) he guided its efforts. He was chairman of its council from the outset, and president in 1907. There were, indeed, few causes which he had more at heart than the attempt to make more widely

known the literature and the ideals of the earlier world. The distinctive note of his scholarship was his intense perception of the human significance of ancient poetry. This regard for the deeper and more intimate side of classical study fitted him to be the center and leader both of those who were concerned to defend that study from attack, and of those who were most anxious to free it from narrowness and pedantry. Among the achievements of the association which he guided or initiated may be mentioned the reform in the pronunciation of Latin, now generally accepted, the beginning of a similar reform in that of Greek, and the recent changes in the Previous Examination at Cambridge and in the classical part of Responsions at Oxford. He was, however, opposed to the abolition of Greek as an essential element in those examinations.

The patient thought and labor (says the witness already quoted) which Butcher devoted almost daily to the work of the Association can be known to but very few. In the higher education of the country he had, in fact, attained an almost unique position. During the last twenty years few changes of moment have taken place in any British University in which he was not concerned; and few appointments of importance have been made in which he was not consulted. And the reason of this confidence was his remarkable combination of judgment, sympathy, and sincerity. An Irish Nationalist once heard a Catholic Mother Superior eagerly submitting to him a scheme for bringing the nuns of certain convents within the range of University teaching. A rumor that in the next Unionist Government Butcher might be Minister of Education was welcomed at Maynooth with the words, "We don't agree with Mr. Butcher, but we know he would treat us fairly." "The Bayard of English scholarship" he was called by one of the many Universities which enrolled him among their honorary graduates; and his singleness of aim, his combined gentleness and courage, warranted the title. In recognition of his many attainments, the Universities of Oxford, Dublin, St. Andrews, Edinburgh, Glasgow, and Harvard conferred upon him honorary degrees. He was a Corresponding Member of the Amer-

ican Academy, and an Honorary Fellow of University College, Oxford, and Trinity College, Cambridge. Among the productions of his pen, one of the first Grecians of the day singles out for special praise his edition and translation of Aristotle's *Theory of poetry and fine art,* with the elaborate treatise on the subject which follows.

It is peculiarly difficult in Butcher's case to separate the scholar and the man. The personality, the address, the writings of learned men are too often an ironic comment upon the convention which calls letters "humane." But none of the frailties so frequently incident to erudition, and even to the literary life, were to be found in Henry Butcher. Thruout the wide range of his acquaintance, extending over the whole scale of society, he carried the same sweet, simple, and graceful facility of adaptation and sympathetic interest. His distinction was based upon rare endowments and acquirements, not upon assumption or self-assertion, and was intensified by his mastery of the pre-eminently human faculty of speech. His conversation was fluent, playful as well as vigorous, argumentative when the occasion required, genial and discursive in ordinary society, but it never degenerated into monologue. The charm of his courteous and unassuming manners, aided by remarkable beauty of feature, conciliated in advance those who met him for the first time. Reserved about himself, only those who knew him well could realize the depth of his nature and the warmth of his affections. Limpid in his sincerity and steadfast in his moral and political opinions, he was conservative in the best sense, holding fast to what he believed to be good, but open to conviction and zealous for beneficent reform. His moral indignation was always roused by cruelty or wilful wrongdoing in any shape; and his intimate knowledge of Ireland supplied him with only too many incentives of this nature. He always spent some months of the year at Danesfort, on the shores of Killarney, a small property which had descended to him from his paternal grandfather. There he delighted to live in the midst of his own people, and many were the tributes of respect and affection rendered to him by his poorer neighbors. His strong sense of humor was con-

stantly amused by the quaint expressions and the half-unconscious wit of the peasantry about him; and Irish anecdote, Irish repartee, tho never obtruded, formed a sparkling element in his conversation. Irish on both sides, he inherited thru his father a strain of English blood; and his character was a happy blend of all that is best in both nations, of Irish charm, wit, and eloquence, with English energy, courage, moral sense, and resolution.

VII

THE ATTITUDE OF THE NEWER PHYSICS TOWARD THE MECHANICAL VIEW OF NATURE

It has been evident for the past few years that theoretical physics has been going thru one of the recurring periods of rapid change, readjustment, expansion, and clarification coincident with the advent of new ideas of fundamental nature—such a period as came with the Newtonian ideas in the seventeenth century, or with the recognition of the principle of the conservation of energy in the nineteenth century. Professor Planck of the University of Berlin, himself one of the foremost agents in this development, has given some account of it (under the above title) in a noteworthy address before the eighty-second annual meeting of the Aerzte und Naturforscher in Königsberg in September, 1910, of which the following is an abstract, with such additions and explanations as would seem to be of advantage to the non-technical reader.

What Planck here defines as the mechanical view of nature is that view which would attempt to explain all physical phenomena by means of motions, that would ultimately reduce the whole of heat, electricity and all physics to mechanics. More specifically, this view would reduce all phenomena to the effects of the motions of invariable, exactly similar elements of mass. Thus the "mechanical view" involves first the conception of motion as the cause of all phenomena, and secondly an atomistic theory in regard to matter or whatever else it is that may move. Is now this hypothesis, in the light of the later developments of physics, fundamental and effective?

It is doubtful if Professor Planck would find even in

England, the most fertile ground for the growth of mechanical analogies and theories, many adherents of the extreme kinetic theory, but, as he says, there have always been physicists and philosophers who regarded the theory as almost self-evident, and certainly, among various views, the one which regards all phenomena as interpretable in terms of mechanics has up to the present been most productive of results. On the other hand, there have always been some who regarded this view as too narrow to cover the whole rich variety of natural processes. Until the present it has been impossible to give final judgment either way. Only now, for the first time, does a settlement of the question appear possible, as the result of a movement of such a radical, revolutionary kind that its influence will be felt thruout all the physical sciences, and even in the theory of knowledge.

The mechanical view of nature had its greatest development in the century just past, in which it received a mighty impulse from the establishment of the principle of the conservation of energy. Assuming the mechanical view of nature, it is easy to deduce from the simplest laws of mechanics the conservation of energy, so it was taken by many that the truth of the energy principle indicated, conversely, the correctness of the mechanical view of nature. For some time then it was not sufficiently recognized that the energy principle had nothing whatever to say as to the form of the energy. For example, it would be quite as much in accord with the energy principle to assume all energy to be electrical as to be mechanical. That which gave a more direct and special stimulus to the mechanical view was the kinetic gas theory, successful in accounting in every detail for the pressure, viscosity, diffusion, and heat conductivity of a gas, as well as the chemical phenomena of dissociation, isomerism, and optical activity, on the basis of atomistic mechanics.

In contrast with the atomistic kinetic theory is pure thermodynamics, or the so-called energetics of the school of Ostwald, which developed alongside the kinetic theory of gases, and appeared to be fraught with grave danger to the atomistic theory. If the first law of thermodynamics, namely,

the principle of the conservation of energy, did not really support a mechanical theory, the second law of thermodynamics, expressing the irreversibility of natural processes, *e.g.* that heat flows from a hot to a cold portion of a body, but can not flow in the reverse direction from a cold to a hot portion, actually appeared to go against the mechanical conception of phenomena, for in mechanics any process is reversible in direction. It took the keen analysis and scientific optimism of Boltzmann to reconcile the second law with the atomistic theory, and indeed to make clear, thru an atomistic view, the fundamental significance of the second law.

The author's reference here is to the development by Boltzmann of the notion of probability or of statistical mechanics. The general line of reasoning may be illustrated as follows for the case of heat conduction. Given an isolated body with the energy of the uncoordinated or random motions of its molecules constituting its heat energy, it appears readily from a consideration of probability that after the lapse of time the most probable state for the body as regards this molecular motion is that in which the mean molecular energy for one portion of the body is the same as for any other portion. To reach this altogether probable state the warmer portions of the body must lose heat, the colder gain it; never the reverse, and so we have the second law, that heat will not be conducted from a colder to a warmer body. In general the meaning of the second law is that natural phenomena proceed in such a manner as to have the molecular or atomic velocities all the time approaching a more probable distribution. Thus, as Planck remarks elsewhere, the really elementary processes such as impacts of molecules, are quite reversible; the irreversibility of natural processes comes from the combination of a vast number of molecular motions in a chance or uncoordinated manner.

The fact is that pure thermodynamics has its natural limit. It can predict exactly the equilibrium state for a system, say of chemical substances. It can say what equilibrium state the system will go toward, if not already in equilibrium, that is, what reaction will take place, but can not say how rapidly it

will proceed. Here again the atomistic theory has proved its value, especially for the laws of ionization, and indeed for all processes in which electrons take part. In fact, there is the whole field of cathode and Röntgen rays, radioactivity and dispersion of light, which are to be understood only on the ground of an atomistic theory. It has even thrown light upon questions once considered the peculiar field of thermodynamics, namely, the emission and absorption of radiant heat. A very recent triumph has been the complete interpretation of the Brownian movements (continual erratic movements of any small particles suspensed in any liquid, seen if observed under a fairly high-power microscope) as a necessity of, and in turn an almost direct visual proof of, the molecular kinetic theory. Indeed for heat, chemistry, and the electron theory the kinetic atomistic doctrine is no longer a working hypothesis, but an established theory.

Yet the mechanical conception of nature would not be content with an atomistic theory of matter and of electricity; it would reach out further to have the explanation of all the phenomena of nature in terms of the movements of simple particles or mass points. The most magnificent, but also the last attempt to carry back, in principle, all phenomena to motions, is the mechanics of Hertz. The aim of the mechanical conception of nature was here brought to a certain ideal completion. The Hertzian mechanics is not so much actual physics, as it is a sort of "confession of faith" for physics, since Hertz did not live to work it out in detail for even a single case; but it lays down a program of the highest consistency and harmony. Assuming mass particles as the only real elements of the physical universe, he went beyond the conservation of energy standpoint of Helmholtz, and eliminated to start with all difference between potential and kinetic energy. As he assumed only one ultimate kind of matter, so he assumed only one ultimate kind of energy, the kinetic energy of motion of ultimate mass particles, either evident or concealed.

The differences between the various forms of energy are in his theory due to the existence in nature of different kinds

of geometrical connections or constraints between the visible or invisible mass particles. These constraints or connections were assumed to be of a kind which would exert no influence on the kinetic energy of the mass particles, but would determine geometrical relations only, as for example a curved railway track determines the path of motion of a train, but does not change its speed or energy. With everything thus reduced to the motion of masses, the laws of the Hertzian mechanics have a wonderful simplicity and distinctness.

In connection with what Planck says, it is interesting to note that Poincaré says of Hertz's mechanics that, while some theorists would be satisfied if they could explain all phenomena by motions of molecules attracting each other by certain laws; and others would suppress action at a distance and have the paths of molecules deviated only by impacts; Hertz went so far as to suppress forces altogether and substitute a system of geometric relations or linkages between the molecules, thus trying to reduce dynamics to a sort of kinematics.

But, continues Planck, not even Hertz has escaped the difficulties; he has only pushed them further back into a region difficult of experimental approach, and it seems certain that Hertz himself must have felt this to be the case. Not a step further has been taken in that direction, for in the meanwhile the development of physics has taken quite other ways, far away from the mechanical conception of nature. Just in the part of physics of which we have the most exact knowledge is there a great group of phenomena which oppose what seems an insurmountable obstacle to the mechanical conception.

This brings Planck to the question of the ether—the luminiferous ether—which he calls the "very child of sorrow" of the mechanical theory. This ether is only a postulate of the mechanical theory, and from the time of Huyghens on, constant vain attempts have been made to contrive a mechanical model of the ether, a medium with an astoundingly small density or an astoundingly great elastic

modulus as compared with ordinary matter, incapable of transmitting longitudinal waves, and offering no resistance to the motion of heavenly bodies thru it.

Without going into a criticism of the attempts to surmount the difficulties of the ether, attention is called to a suspicious symptom that seems to accompany unfruitful hypotheses, namely, the occurrence of physical controversies that can not at all be settled by measurement. In the case of the ether it was the celebrated controversy between Fresnel and Neumann over the relation between the direction of ether vibration in the light wave and the plane of polarization. There is hardly another instance of such an obstinate combat, waged with all the arms of theory and experiment, over what appears a fundamentally unanswerable question. With the advent of the electromagnetic theory the conflict was recognized as meaningless and given up—at least so long as light is considered an electrodynamic phenomena. In an electromagnetic wave there are necessarily two vibrations, electric and magnetic; one in the plane of polarization of the wave, the other in a perpendicular plane. But the old problem is still contained in the more general problem, on the mechanical theory, of giving a mechanical explanation for all electromagnetic phenomena, for now the old luminiferous ether must be made to take care of not only electromagnetic waves or light, but indeed all static or dynamic phenomena of electricity and magnetism.

It was all vain—the ether resists all efforts to treat it as mechanical. Most active among great physicists in the production of mechanical ether models was Lord Kelvin, even up to the end of his life. For example, there were his elastic solid theory and his vortex theory. It has proven impossible to deduce the electromagnetic phenomena in free ether from a single mechanical hypothesis, while on the other hand these same phenomena can be described with wonderful simplicity by the Maxwell-Hertz equations. The laws themselves are known to the last detail, only the mechanical explanation seems forbidden, and completely so, unless we are willing to admit that the Maxwell differential equations are only approx-

imately true. There is *à priori* no objection to this admission, but unless it leads to consequences that can be detected by experiment it would appear valueless, and in trying such experiments one must be prepared to add one more to the already many futile experiments.

Of these futile experiments to detect an inexactness of the Maxwell-Hertz equations for electromagnetic phenomena, one kind is of the most consequence, because its significance is wholly independent of any particular assumption as to the nature of the ether. With any kind of ether there is the question of whether, when a transparent substance moves, it carries the ether within it wholly with it, or whether the ether remains wholly or partially at rest when the body moves. Fizeau proved in the middle of the last century that the contained ether is not altogether carried along by a moving transparent body, or, as it may be said, for example, that light goes as fast against the wind as with it. When we have established that the ether in air does not move with the air, we naturally ask further: how great is the velocity with which the atmospheric air moves through the ether?

It is this question which has not yet been answered by any measurement. The earth's atmosphere has on the whole a velocity of 30 kilometers per second in its orbit around the sun, changing in direction with the seasons. This is only a ten thousandth part of the velocity of light, yet there are experiments that by all we know of optics would on the ether hypothesis show the influence of this velocity through the ether. But all keen insight, all experimental cleverness in trying to discover any effect of the motion of the atmosphere thru the ether, shatter themselves against the obstinacy of the facts. Not a trace of an influence of the motion of the earth has ever let itself be detected in any optical phenomena. The most striking experiment of this kind was the research of Michelson in which the distance traveled by light in a direction perpendicular to the motion of the earth with reference to the sun is compared with the distance traveled in the same time by light along a path parallel to the earth's motion. The principle is very simple and the

method of measurement extraordinarily sensitive, yet no influence whatever of the earth's motion was detected.

May not then all the troubles with the ether, our total inability to determine by experiment its elasticity, its density, the direction of vibration in a light wave, the velocity of bodies thru it, really arise from a fundamental misconception? May they not be questions of no physical meaning? If so the pains taken to find an answer for them would be like the efforts to invent a perpetual motion. Here we come to the decisive departure—to the principle of relativity, which is in short the denial of any meaning to the phrase "motion thru the ether," the denial that "motion" has any meaning at all unless it means motion with reference to some portion of matter.

According to Helmholtz, the first step towards the discovery of the energy principle was taken when first the question arose: what relations must there be between the forces of nature if it is to be impossible to have perpetual motion? In the same way we may justly say that the first step toward the discovery of the principle of relativity came with the framing of the question: what relations must exist between the forces of nature if it is to be impossible to assign material properties to the ether? Naturally, in order to arrive at definite results, it is necessary to unite the above negative formulation of a principle with some positive results of experience, and for this purpose the best are the Maxwell-Hertz electromagnetic equations for the free ether, or, as we shall rather say, for a vacuum. This has been done and the deductions brought into definite form.

A new truth always has to overcome certain difficulties, and for the relativity theory the main difficulty is a revolutionizing change in the notion of time, which may be illustrated by the following example. According to the principle of relativity it is altogether impossible for an observer anywhere in the solar system to discover experimentally any velocity thru space that is common to all parts of the solar system. Now we say that on the earth we are not made aware of an occurrence on the sun until about eight minutes after it happens, on account of

the time it takes light to traverse the distance, that is, if we assume the sun and earth are at rest in the ether. But if we thought that both the sun and the earth were moving with a high velocity toward a point on the farther side of the sun from the earth we would say that light would come from the sun in less than eight minutes or we would become aware of an occurrence on the sun in less than eight minutes after it happened. If we thought the common velocity of the earth and sun were toward a point on the farther side of the earth from the sun we would say that it would take light more than eight minutes to come from the sun. If then we ask, what time in reality elapses between an occurrence on the sun and its observation on the earth, the question is quite the same as "What is the actual velocity of the sun and earth?" As according to the relativity principle the second question has no physical significance, no more has the first, or in other words, time and simultaneity have in physics a definite meaning only when the velocity of the observer is taken into account.

The result, that time as well as velocity has a relative meaning, that as applied to two independent events in different places the distinction of "earlier" and "later" may be for two different observers just reversed, sounds to the unaccustomed quite preposterous, but probably no more so than five hundred years ago the statement may have sounded that what we call vertical was no constant direction, but turned clear over once in every twenty-four hours. The test of a hypothesis is not its intuitiveness, but its productiveness. If a hypothesis has shown itself fruitful, we gradually become accustomed to it, and it takes on a sort of intuitiveness.

How does the theory of relativity stand in this regard? how does it stand the test of fruitfulness? Certainly it gives definite and easily formulated results for physical theory. Among the pioneers in the new field Lorentz is to be named first, for it is he who found the notion of relative time and introduced it into electrodynamics, next Einstein, who first had the cleverness to proclaim the relativity of all time quantities as a universal postulate, then Minkowski, who succeeded in bringing the relativity theory into a completed mathemat-

ical system. It is no accident that these abstract problems have awakened most interest among the mathematicians, especially since the mathematics is for the most part exactly the same as that of the geometry of four dimensions. On the other hand the experimental physicist does not stand at enmity to the relativity theory, altho he may await more positive experimental conclusions: for the relativity theory, when applied to various parts of physics, furnishes experimental criteria for its own correctness. It is true that the experiments necessary are all of a kind that require a high precision of measurement. Perhaps, if it were not so, the relativity theory would have become established earlier, just as the sphericity of the earth would have been proven earlier had the radius of the earth not been so large in comparison with our measuring apparatus.

The analogy between position in space and time goes further than the fact that they are both relative. According to Minkowski there is even much more than an analogy between space and time; there is complete identity, at least in a mathematical sense. He showed that if we measure time with a suitable unit, imaginary indeed, the three dimensions of space and the one dimension of time enter into the fundamental equations of physics in an absolutely symmetrical manner, so that the doctrine of the relative nature of any velocity is only an extension of the doctrine of the relative nature of any direction in space. According to the principle of relativity, the physical world accessible to our observation possesses four completely equivalent and interchangeable dimensions. Three of them we call the three dimensions of space, the fourth, time, or rather, time is this fourth dimension divided by the imaginary quantity $\sqrt{-1}$.

The highest physical law, which crowns and unifies all, is the principle of least action, the principle which states that for any system in which the total energy is constant whatever actually takes place does so in such a way that a certain quantity, called the "action" of the system, is either a minimum or a maximum as compared with any imaginable process which differs from the actual one. When developed

in conjunction with the relativity theory the principle takes on a form which contains the four coordinates of the universe in a completely symmetrical form, and herein lies its primacy.

From this central principle there radiate out symmetrically in four directions four principles of quite coordinate worth, corresponding to the four dimensions. To the three dimensions of space correspond the principle of momentum and impulse in the three directions from which the mechanical view arises; to the time dimension, the principle of energy and work, from which arises the energetic view of nature. Never before was it possible to follow the deeper meaning and the common origin of these principles back to their root. Furthermore, the relation of the mechanical to the energetic view of nature appears in a new light thru this conception.

In this light each of the two conceptions of nature, the mechanical as well as the energetic, being derivations along different lines from the fundamental principle of least action, suffers thus from a certain onesidedness, altho the first has the advantage that it furnishes three equations, one for each of the three space dimensions, while the energetic conception furnishes only one form. Mass or inertia can be found from either the momentum or the energy of a moving body, but, according to the relativity theory, mass loses its elementary character and sinks to a secondary position, for the mass of a body is not constant, but is dependent on its velocity, and in such a way that as the velocity of the body increases to the velocity of light, the mass increases beyond all limits. Hence it is impossible, according to the relativity theory, to bring a body to a velocity which is as great or greater than the velocity of light. Indeed, independently of the relativity theory, it has been proven that the mass of a body can not be constant.

Then we must ask, if the conception of a mass point loses the property of constancy, what is left to constitute the unvarying elements out of which to build our conception of the physical world? The answer is that the unvarying elements of the system of physics based on the relativity principle are the so-called universal constants; the velocity of light in a

vacuum, the electrical charge of an electron, the mass of an electron considered at rest, the "elementary quantity of energy" deduced from the theory of radiation, the gravitation constant, and many others. These measurable magnitudes possess real significance, for their values are independent of the condition, the standpoint, and the velocity of the observer.

Of course, there still remains very much in detail to be cleared up. If it were not so, physics would no longer be an inductive science, and that it will surely always remain. In reality, tho, the principle of relativity is in no way disturbing and destructive, but is in a high degree constructive and order giving. It preserves all the treasures of the mechanical view of nature, but presents them in a changed and much clearer grouping. It removes out of the physical world the unnecessary ether, and purifies physics of one more anthropomorphic conception, while opening to the eager investigator a prospective of immeasurable breadth and nobility. Whoever takes the step of putting himself in the line of thought of this new conception must feel the charm and beauty of it.

Physical questions are not to be decided on esthetic grounds, however, but by experiment, and this means in all cases patient labor. Just here is the high physical value of the relativity principle, for it gives to a group of physical questions which formerly lay in complete darkness a precise answer capable of test by experiment. For example, the relativity theory furnishes an exact statement of the way in which an electron, moving with a velocity approximating the speed of light, such as one of the *beta* particles from radium, will be deflected when traversing a magnetic field. Other theories lead to different statements as to the amount of the deflection. The experimental test is difficult, but attempts at it have been made, and at present there are experienced heads and skilful hands at work in many laboratories to decide the outcome of the question. The results now seem to support the relativity principle, tho at first they seemed to bear against it.

Whatever the decision may be, concludes Planck; whether

the principle of relativity will hold or whether it must be given up; whether we are really on the threshold of an entirely new conception of nature, or whether this forward step will still not lead us out of the darkness, no price is too great to pay for clearness. Even a disillusionment, provided only that it is final and definite, is a step forward, and the sacrifice of a scientific theory may have its reward in new treasures of knowledge.

GEORGE B. PEGRAM

COLUMBIA UNIVERSITY

VIII

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New York (City) Commission on teachers' salaries. Report to the Board of estimate and apportionment . . . October 17, 1910. [New York, M. B. Brown printing and binding co., 1910] 143p. 8°.

Perkins, Agnes F., *ed.* Vocations for the trained woman; opportunities other than teaching. Introductory papers. Boston, Women's educational and industrial union [1910]. 296p. 8°.

"This book is the outgrowth of a conviction that many women who are unfitted for teaching drift into it because it is the vocation with which they are most familiar; that the teaching which results is injurious to both teacher and pupil; that many who make poor teachers might become able workers if wisely guided into other fields." The papers are contributed by expert authorities on the various occupations.

Phillips, Claude A. A history of education in Missouri; the essential facts concerning the history and organization of Missouri's schools. Jefferson City, Mo., The Hugh Stephens printing company [1911]. 292p. 12°.

Raymond, George L. Fundamentals in education, art and civics. Essays and addresses. New York and London, Funk & Wagnalls company, 1911. 350p. 12°.

Schulze, Friedrich *and* **Ssymank, Paul.** Das deutsche studententum von den ältesten zeiten bis zur gegenwart. Leipzig, R. Voigtländer, 1910. xxiv, 487p. 8°.

This history of university student life in Germany is dedicated to the University of Berlin on the occasion of its centennial festival, 1910. Part 1, covering the period 1350-1750, is by Dr. Schulze; Part 2, 1750 to the present, is by Dr. Ssymank.

IX

DISCUSSIONS

ENGLISH AND THE FOREIGN LANGUAGES[1]

Are the results of the teaching of English commensurate with the time and labor expended by pupils and teachers? This, I fancy, is the question most agitated today by teachers and professors of English all over our land. The results, evidently, are unsatisfactory. Pupils come to college too often with a distaste for literature and with inability in the fundamentals of correct writing. They leave college, not as crude certainly as when they entered, yet without the habit of correct, clear, and efficient discourse. Teachers are wearing themselves out in a thankless task of reading yearly hundreds of compositions. In order to improve this state of affairs, a careful investigation is on foot by a committee of the Central Division of the Modern Language Association to ascertain what conditions are necessary for successful work. The investigation is timely; but it seems to be limited to conditions *within* the departments of English. Is not the time ripe for us to ascertain, also, the kind of English heard and used by pupils in departments of study other than English? The language a young person usually hears that inevitably he will habitually use. If the teacher of history, or of science, or of language uses slovenly English, or allows slovenly English on examination papers or other written work, is not the efficiency of the teacher of English rendered thereby less effectual? Does it not seem an almost impossible task that has been assigned the teacher of English, under existing conditions? Obviously the English department can not be ex-

[1] Paper read before the English Section of the Maine Educational Association, at Bowdoin College, Brunswick, May 21, 1910.

pected to accomplish its high task without the cooperation of the entire teaching force in school and in college.

Some time ago, my interest was aroused in this problem because of the unidiomatic English, the exotic character of phrases and construction, habitually used by college students, particularly freshmen, in their compositions. The language had the earmarks of Latin, German, and even Greek. One week, for instance, a student handed in as his exercise in composition a written translation in which was the following sentence: "Think of an old house, I a student and dwelling in it three stories high." Compare this sentence with the original: "Denken sie sich ein altes Haus, ich bin student und wohne darin drei Treppen hoch." Evidently the translator followed literally the German order of words and phrases; and consequently made his English ambiguous and absurd. The mistake was pointed out to the student. The next week he wrote a narrative of personal experience in which were the following sentences: 1. "After much effort I got out, and started home, clothes all wet and sobbing! what will Mamma say." 2. "After reproving me with words as only a mother can, she put on me, some dry clothes, and pressing me to her bosom, was fast asleep." The error common to all three sentences is that of a total disregard of English sentence structure; the careless stringing of words together irrespective of their clear modification. This illustrates the kind of slovenly English that could easily arise from translating literally, in the word-order of a foreign text. It would be obviously unfair, however, to hold that the translating of German, or of any other language, is, therefore, the direct cause of similar mistakes in English composition. If the habit was fixed through translating, the influence would be directly chargeable. But how determine the history of the habit? Such a question is too elusive and complicated for practical discussion. The most profitable thing, it seemed to me, that could be done was to investigate the nature of what has come to be called translation-English, and if possible point out a remedy. I accordingly asked several high school and college teachers of foreign languages to send me

the written translations of their students. The teachers were asked not to make known that the papers were for me; and as far as possible to have the exercise represent the normal daily work of the students. I examined about 200 translations. A summary of the result of my investigation will show conclusively, I think, that more attention should be paid by teachers of foreign languages, to an insistence upon translation into idiomatic and clear English; and that in this connection, perhaps, teachers of English have a duty to perform.

The errors of these translations are of divers kinds and their classification presents some difficulty. In general, however, they are of three classes: 1, a phrasing not English, 2, a grammar not English, and 3, a word-order not English.

Of the first class, a phrasing not English, there are many varied examples. Perhaps the least frequent in occurrence is where an entirely inappropriate word for a particular phrase is used, as in the following: "For she fears the *ambiguous* house (race) and the noble-tongued Tyrians." Here "ambiguous" apparently is used for "treacherous," consequently we have the absurd phrase "an ambiguous house." The teacher of the student who wrote this sentence insisted that "ambiguous" is used correctly here. Another example of the same kind was written by a sophomore in college: "Other examples of this kind," he writes, "are powerful enough to weary the much talker Fabius." Much talker is hardly English. Frequently the wrong preposition is used. Again a college student writes, "A person to whom a person promises to stand up for on the day of trial." The meaning evidently is, "A person for whom."

The second class, a grammar not English, is larger and more varied. Sometimes foreign sentence structure is retained, as in the following: "Thus she spoke, but she knew the voice of the goddess speaking, he hastening ran (hastened to run) and cast from him his cloak." This sentence has indeed a strange sound, and why? Largely because of the unidiomatic usage; we do not properly say "hastening ran" but hastened and ran, or hastened to run. The translator himself seemed conscious of the inappropriateness of the expres-

sion; for in parenthesis he wrote "hastened to run." We may, I fancy, safely infer that the student felt obliged to use the participial construction in order to indicate his knowledge of the form in the original.

Another phase of this error in sentence structure may be seen from the following college student's translation of a Latin sentence: "He showed to them the attempts to be very easy to accomplish, inasmuch as he himself was about to possess the royal power of his own state, not to be doubtful as the Helvetians were the most powerful of all Gaul, he assures that he himself will win over kingdoms for them with his own forces and his own army." This sentence is chaotic. It seems to lack unity of thought, but in reality it does not. It lacks, instead, unity of form; that is, the sentence is not so constructed as to bring out the unity there. This is due apparently to translating word by word, and clause by clause without regard to English grammatical structure. For instance, to consider only a part of the sentence, the phrase, "He showed to them" is probably the Latin indirect object. We find the equivalent in Shakespeare's Cæsar, "He plucked me ope his doublet and offered them his throat to cut," and again in Henry IV, "It ascends me into the brain." In English, however, the preposition is omitted. In this case also we may infer that the student, in retaining the preposition, was desirous of showing his knowledge of Latin grammar. The following sentence, altho infinitely better in its construction than the one just cited, is nevertheless unsatisfactory: "And as many as escaped death, after undergoing dangers, wandering about in many cities and being driven out on all sides, being in want of the necessities of life, some having left their children in a hostile fatherland, others in a foreign country, altho many things opposed you came to Piraeus." This is easily recognized as the Greek periodic sentence. I must confess that it is, upon the whole, fairly well handled; for its jaws are parted wide by many details, and for the most part the construction is evident. In one essential particular, however, the construction is weak. The periodic structure is, of course, common in English; but when

used must be so carefully formed that the meaning will be obvious. The subject, for instance, of the main verb must be unmistakable. The sentence just read leaves us in doubt whether the pronoun "you" is the object of "opposed" or subject of "come." For purposes of English the subject is preferably the first phrase of the sentence, "As many as escaped death." The placing a comma after "you" to make it the object of "opposed" would not help matters much, as the verb then would be too far removed from its subject. Out of 19 papers, 11 were practically the same as the one just cited. The rest were either worse or much better. One student felt the difficulty and tried repetition thus: "But you, as many as escaped death,—(you) came into Pyraeus." There are still other aspects of foreign sentence structure, as the following illustrates: "Cæsar *he* increased the senate to 900, opened its ranks to freedmen and veterans." This needs no comment except to say that it was written by a college student. A more common error is shown in this sentence: "O fortunate merchant, the soldier burdened with years says, indeed broken down with much labor *as to his limbs.*" Here we have in the expression "as to his limbs" the Latin accusative of specification; and such a construction is not, of course, idiomatic English. This is a common error in both the translations of college and preparatory students. Its influence, moreover, is so strong that we find an equivalent construction in English essays, as witness the following written by a junior in college: "The weekly (college paper) is more literary in its productions, *as being published each week,* it is of greater practise to its editors." This example is perhaps not strictly an accusative of specification; yet it is, I think, undoubtedly the result of its influence. If these sentences are not strictly English they are at least sane; which is more than can be said of a sentence cited by a professor in a Western college as actually written by a student. The youth instead of saying, "His trousers were turned up," wrote, "He was turned up as to his trousers." One further grammatical error, which in one form or another, is exceedingly common: the ambiguous pronouns, first the impersonal *it.* "The merchant on the other

hand, seeing his ship before the blowing south winds, says, the soldiery is better. For what, *it* rushes together, either swift death or joyful victory comes in the space of an hour." The sentence certainly is unintelligible. Secondly, ambiguous personal pronouns, thus: "He indeed said these things, and the captain, upon hearing them, commanded him to lead all, except a certain one Appolonidas who resembled the Boetians in voice; and he said that he would speak foolishly who would say that if he should be able he would obtain safety in some other way than by obeying the King, and at once he began to tell the difficulties." Thirdly, the ambiguous relative, especially, "which"; and of this there are two varieties: 1, where the mistake is made outright, as in the following: If you had been unsuccessful and had failed in these things, you yourselves would have defended yourselves, fearing lest you should suffer the same things as formerly, and neither altar nor temples would have aided you being wronged through the deeds *which* are now safety even for those doing wrong." The second variety, is where the translator is conscious of the ambiguity and instead of re-arranging the order of clauses so as to make the retrospective reference unmistakable, uses brackets to explain, thus: "And because of the conduct of these, not even the sacred rites nor the altars would succor you if you did wrong which (rites and altars) have now come to be places of refuge even for the wrong doers." This truly is an awkward and slovenly sentence structure, and, I am sorry to say, that the parenthesis is similarly employed commonly by some of our best students.

The third general class is a word-order not English. Frequently the translator retains in his translation a foreign order of words as in the following from the German: "I have compelled my fancy in old Hellas to wander, and the picture of that pair of friends to raise, to whom the old world was so rich." This should read: I have compelled my fancy to wander in old Hellas and to raise the pictures of that pair of friends, to whom the old world was so rich." The evil effect of the repeated use of a foreign order of words upon English expression can hardly be overestimated. It is a common thing

to find in essays an order of words evidently not English, and yet, it must be admitted, the order does not always seem characteristic of a particular foreign language; as in the following: "In it with his family, dwelt a man with a very unamiable disposition." This should read, "A man of a very unamiable disposition dwelt there with his family."

There are, furthermore, objectionable features of translation-English that do not belong to any of these classes just cited. They are not even exclusively characteristic of translation-English, and on this account, if for no other reason, should have attention called to them in this connection; in order that translation may become a positive force toward worthy English. The most common and serious of such features is the unintelligibility of the translations as a whole. There seems to be in many cases, far too many, little, if any, grasp of the thought as thought, to say nothing of the tone and spirit of the original. It ought not to be necessary to read several translations of the same passages in order to find out just what the thought is and then perhaps be obliged to blow the dust off your Horace or Homer that you may feel fully satisfied.

Then as a part of this same fault is the failure to reproduce the tone and spirit of the original. Thought and mode of expression, matter and manner, substance and style are inseparable. To translate a satire of Horace, for instance, and omit the smooth or sharp irony is to give us salt without any savor. There are, to be sure, limitations; the best translation is an inadequate representation of the original. In translating Homer it is impossible to express fully in English prose or verse the movement of the Greek. It is also difficult to bring out the emotional force of the original. After all limitations, however, have been admitted, it seems as if the college student, if not the preparatory, should succeed better in this respect than he does.

Thus I have made bold to say that the translations of students too often do not express clearly and intelligently the thought of the original, and that the spirit is not reproduced as fully as is reasonable to expect, and I may add that this

fault is largely due to the fact that the imagination of the student is not sufficiently stimulated. I have endeavored also to point out that the unidiomatic English of translations consists mainly in the use of a phrasing not English, or in a grammar not English, or lastly in a word-order not English.

Lest more harm than good be derived from the study of foreign languages, it seems to me high time that teachers of English cooperate with the teachers of other languages in a strenuous and persistent effort to improve conditions in this particular field of student work. I question the profit and desirability of the study of Greek and Latin and French and German at the expense of correct English. In the very nature of the work, translation ought to be an excellent drill in clear and accurate expression; and I see no reason why it may not be. Should not teachers of English insist, in so far as they may, that drill in grammar be separated from the exercise in translating in order that greater emphasis may be placed upon the translation for its own sake? Would it not be better for students to read less in the foreign languages and give more time to careful and worthy translation? Would it not, moreover, be feasible and better for teachers of English to assign exercises in written translation as a part of the composition course rather than to insist upon so much original work upon subjects about which the student has nothing worthy to say?

ROLAND P. GRAY

UNIVERSITY OF MAINE

GRAMMATICAL NOMENCLATURE

Errata

In the table printed in connection with the article on grammatical nomenclature, in the issue of the EDUCATIONAL REVIEW of June, 1910, there occurred an error in connection with the Gowdy *Grammar*. Constructions 1 and 2 should both be given as *predicate attribute*.

In the case of several other texts, the same construction is called by different names in different parts of the same text.

In some cases the name given in the table may not have been the one most regularly used in the text, tho the writer sought to use the term that the book *first* used in connection with the given construction. The writer feels that it would be fair to the several authors to note the following options:

Reed & Kellogg, Construction 3, read: *object complement.*
Whitney & Lockwood, Construction 3, read: *direct object.*
Krapp, Construction 3, read: *object;*
Construction 4, omit *object complement.*
Baskerville & Sewell, Construction 1, read: *complement of intransitive verb.*
Wisely, Construction 4, read: Calls *our barn red* factitive direct objective modifier.
Brown & De Garmo, Construction 1, read: *predicate adjective;*
Construction 2, read: *predicate noun.*
Mother Tongue, Construction 2, read: *predicate nominative.*
Sheldon, Construction 1, read: *predicate adjective;*
Construction 2, read: *predicate noun;*
Construction 3, read: *objective complement.*

C. R. Rounds

State Normal School
Whitewater, Wis.

X

REVIEW

J. B. Basedow's **Elementarwerk** mit den Kupfertafeln Chodowieckis und Anderen. Kritische Bearbeitung in drei Baenden. Herausgegeben von Theodor Fritzsch. Leipzig: Ernst Wiegandt, Verlagsbuchhandlung, 1909.

This excellent critical edition of Basedow's famous *Elementarwerk* in three volumes is of value not only to the student of the methods and the history of education, but also to the historian of civilization and the lover of art as well. It is one of the examples,—by no means rare in Germany,—of a spirit of enterprise that rests upon something more worthy than a publisher's love of gain; and it ought to receive the encouragement necessary to make possible the production of other works of this kind in the future. No more competent editor could have been chosen for the undertaking than Dr. Fritzsch, whose former studies in the educational history of the period of the Enlightenment and whose edition of Basedow's *Vorstellung an Menschenfreunde* (published by Reclam) are genuine contributions to our knowledge of the general characteristics as well as of the pedagogical tendencies of that interesting age. The Introduction to the first volume (p. vi-xxxviii), the Appendix (volume II, p. 531-573), and the notes, prepared by Dr. Fritzsch, supply us with information covering a vast field and show with what thoroness the editor has performed his duties. Professor Gilow has written the Introduction to the third volume (p. 3-16), which contains the fine reproductions of the engravings of Chodowiecki and gives us a valuable pictorial insight into the everyday life of the eighteenth century.

More than any man of his time Basedow helped to promote the reform movement in education inaugurated by Locke and Rousseau. Many of his ideals have been realized; indeed,

nearly all of his demands are regarded as commonplaces today. He did not limit his activity to the criticism of the barren methods employed by his age or to general theoretical opinions as to means of improvement, but sought to work out in detail, in his *Elementarwerk,* a complete system of elementary instruction. And more than that; he was an energetic educational agitator with a keen bent for propaganda, and succeeded in establishing an institution, the *Philanthropinum,* in which his ideas were put to the test. "Never," as has been said, "has childhood had a warmer advocate, never a more energetic defender of its rights" than Basedow.

It would do those who are constantly sneering at pedagogy no harm if they would pay some attention to the history of the efforts which have been made to introduce more sensible methods of training the young. They might learn from such a study that there are wrong ways and right ways of teaching, and that the right ways are not bestowed upon one by the grace of God. It would perhaps dawn upon them that a teacher does not necessarily learn how to teach by teaching, that methods of instruction are transmitted from generation to generation like other human habits, and that it is as hard to break bad habits in the field of education as anywhere else. It is not flattering to the intelligence of mankind that it should have been necessary,—in the eighteenth century,—to plead for what now seem to us educational axioms, nor is it apt to make one optimistic to ponder over the fact that many of Basedow's suggested reforms had to wait another century before they were adopted. Some of them are now making their way into Germany, as Dr. Fritzsch reminds his people in an interesting address on *Philanthropismus und Gegenwart* (Wiegandt, Leipzig, 1910), as American ideals of education!

FRANK THILLY

CORNELL UNIVERSITY

Old-fashioned people will stare both at the contents and at the title of Maxim's *Science of poetry and the philosophy of language.* We rather hope that if there is a science of poetry, it will be still-born, and that poetry will be allowed to remain

one of the most exquisite and subtle of the arts. (New York: Funk & Wagnalls Company, 1910. 294 p. $2.50.)

Electric motors, by Professors Crocker and Arendt of Columbia University, is a well-arranged and a thoroly modern treatment of its subject. It may be commended for use in technical schools, and for purposes of reference. (New York: D. Van Nostrand Company, 1910. 285 p. $2.50.)

Mr. John Graham Brooks tells in attractive form the story of the life, all too short, of William H. Baldwin, Jr., of New York. (Boston: Houghton Mifflin Company, 1910. 338 p. $1.50.)

The ready pen of Dr. Paul Carus has brought together in a little volume entitled *Philosophy as a science* a synopsis of his writings on all sorts of philosophical subjects. (Chicago: Open Court Publishing Company, 1910. 213 p. 50c.)

A textbook of an interesting character, in which the illustrations might be somewhat improved, is *Field zoology* by Assistant Professor Crary of the State Normal College at Emporia, Kans. (Philadelphia: P. Blakiston's Son & Company, 1910. 364 p. $1.25.)

Professor Graves of Ohio State University has made a teaching book on the *History of education* during the medieval and early modern period which is well ordered, but in which we find nothing specially new. (New York: The Macmillan Company, 1910. 327 p. $1.10.)

Pyle's *Manual of personal hygiene* is a cooperative book which, while having some good features, does not appear to us as a whole to take its place with the best books of its type. (Philadephia: W. B. Saunders Co., 1910. 372 p. $1.50.)

Another book of somewhat similar type, but smaller and with a narrower field, is Zenner's *Education in sexual physiology and hygiene.* (Cincinnati: The Robert Clarke Company, 1910. 126 p. $1.00.)

Professor Joseph Jastrow's *Qualities of men* is agreeably written, but, like so many contemporary writings of a similar kind, lacks depth. Many of his comments and criticisms are sound enough, but somehow or other they do not seem very important. (Boston: Houghton Mifflin Company, 1910. 183 p. $1.00.)

XI

NOTES AND NEWS

Women at German Universities

"The Kaiser's Prize, the most coveted distinction at the University of Berlin, has just been won for the first time by a woman. The education of women in Germany is a subject about which little is known in England; even Mrs. Sidgwick, in her chapter on the Universities in *Home life in Germany,* completely ignores the subject. Yet German women are making their way in academic life and winning laurels in many branches of learning hitherto left wholly to men.

"The governing bodies of the German universities for long showed great reluctance to admit women to their privileges. The first institutions for acquiring knowledge were founded by the Church for training young men for the priesthood; tho lay pupils were afterward received, they were always boys. The girls were educated in the convents, and the training they received was often of a high order; for the German convents of the Middle Ages, especially those in Saxony, contained many learned women who took a great position in the intellectual life of Europe. The entire separation of the sexes in their studies had become so customary that, even when the leaders of the Reformation inculcated public instruction for every Christian man and woman, the national judgment still maintained that they should be instructed separately. Moreover, women, being excluded from the learned professions, were not entitled to university education. It is true they did not ask for culture; the even tenor of their lives was pursued in domestic paths. The learned convent lady of the Middle Ages had given way to the homely dame of *post*-Reformation days, whose interests were in her family and her Church. In time, however, the movement for the better education and the greater freedom of women, which

is spreading rapidly in every civilized country, reached the German domestic hearth. At first the woman teacher was at a disadvantage, for she had access to normal schools only, whereas men could choose between the normal school and the university. A woman candidate for a post in a high school would have to compete with university graduates, most with Doctors of Philosophy. Women also began to consider the profession of medicine; and at last, realizing that if they wished to enter the learned professions it must be thru the doors of a university, they began to knock.

"Their first advances were met with uncompromising opposition, and a long and weary conflict ensued. Learned professors wrote volumes to prove that they were fools, physicians of some ability argued in favor of 'the physiological weak-mindedness of women,' but the women persevered. Their chief difficulty lay in the independent position of the universities; for, altho controlled by the State, they are free as regards internal affairs, and even the sovereign can scarcely enforce his will against the wishes of the Senates, whose conservative traditions lead them to meet any encroachments on their rights with determined hostility. In 1892 the Teachers' Association of Göttingen induced some of the professors at the university to give them a two-year special course of lectures, which would enable high school teachers to receive a regular university training. The number of women who attended the classes increased rapidly, and other professors volunteered their help. The Prussian Minister von Bosse took a keen interest in the subject and established a State examination after a course of two years' study. At last the professors came to the conclusion that it was a waste of time to give the same lectures twice over, and they invited the women to attend with the men. The national antipathy to coeducation was being gradually broken down, and in time women were admitted as 'hearers' to all the universities. At one university a professor obtained permission for a brilliant woman student to be admitted to the Ph.D. examination. The Allgemeine Deutsche Frauenverein, which had made successful attempts to obtain for women access to the

lecture rooms of the universities as 'hearers,' again came forward and founded a gymnasium for girls which enabled them to acquire their *maturität*. Tho a large number of women now studied at the universities, they were not allowed to matriculate and were still classed as 'hearers' rather than 'students,' occupying in some respects a position similar to that of women at Oxford and Cambridge. In the last year of the nineteenth century the Grand Duke of Baden, who is perpetual president of the universities of his country, issued a decree allowing women presenting the *maturität* certificate to matriculate like other students. Victory was now in sight.

"The first German university which allowed women to matriculate was Baden in 1900; then followed Bavaria in 1903-4; Würtemberg, 1904; Saxony, 1906; Weimar-Eisenach, 1907; Prussia and Hesse, 1908-9; and Mecklenburg, 1909-10. Women became full members of the universities with the same rights as the men, and they are now admitted to all the examinations except theology in the universities of Saxony and Würtemberg, and law in Saxony and Mecklenburg. When the universities of Baden and Bavaria were opened to women, 254 availed themselves of their new privileges. Their numbers are now steadily increasing; at the Prussian universities their first matriculation resulted in the admission of 663 students, including 43 from America and seven from the United Kingdom. The Prussian universities have given women equal rights with men, except that it is in the power of the Minister of Education to refuse a woman admittance to certain lectures. In Baden, Bavaria, and Würtemberg no such rule exists. Frau von Hausemann offered £1,000 for bursaries for women students admitted on exactly the same terms as men, but the Prussian educational authorities declined the proposal.

"The winter session of 1909-10 showed 1,856 women students, as against 1,108 of the previous year. The faculties which attracted most students were philosophy and philology (975), medicine (476), mathematics and natural science (287), law (32), Protestant theology (5). The university which drew most women was Berlin (632), in spite of the

fact that some of the professors are still opposed to the higher education of women and refuse to receive women at their lectures, even those who have matriculated."—From the London *Times,* January 3, 1911.

The Gatzert Foundation at the University of Washington

All persons interested in child welfare and education will be rejoiced to know that the University of Washington has just received a fund of $30,000, the income from which is to be used in work for defective children. The fund is given in memory of Bailey and Babette Gatzert, who were long residents of Seattle and gave generously to many public interests. The fund is contributed equally by Mr. Sigmund Schwabacher of San Francisco and the late Mr. Abraham Schwabacher, brothers of the late Mrs. Gatzert.

This fund was provided some years ago and has been waiting a suitable form of memorial. It came to be offered to the University in the following manner: In the fall of 1909 a clinic for the examination of defective children was established at the University by the departments of education and psychology, the idea being suggested by Professor Witmer's clinic at the University of Pennsylvania and by other work of a similar character. The clinic soon attracted much favorable attention and among those who became interested in it was Mrs. Nathan Eckstein, daughter of the late Abraham Schwabacher, one of the donors of the fund. After conference and negotiation the fund was offered to the regents of the University and, of course, gratefully accepted by them.

This is the largest gift ever received by the University of Washington from a private source, the only other endowment of any size being one of $20,000 from the estate of Miss Loretta Denny for the establishment of fellowships. It is very natural to expect that the generosity of the donors of the Gatzert fund will result in other endowments for the University.

The plans of the new foundation are as yet not fully formed; the deed of gift provides that the income of the

fund "shall be used to maintain a bureau of child-welfare—the work of said bureau to consist in the promotion in various ways of education for the better care and treatment of children suffering from defects, either physical or mental, especially such defective children as can in spite of their defects attend school of some sort and benefit by some form of school education and training." The University authorities are earnestly studying the best methods of such work, and will put it into full operation as soon as possible.

Of special interest is the point that the benefits of the Foundation are to be extended as widely as possible thru the State; the plan will probably be for the specialist in charge to spend a considerable part of his time visiting centers thruout the State to give aid and counsel to the local school authorities in establishing and conducting work for defective children in their schools. Such work, by the way, is already being done in several of the leading cities.

The work of the Foundation will also greatly enrich the University work in education and psychology, especially for those preparing for educational work; courses will be given in the psychology of the defects of children, and on the treatment of defectives. Advanced students of education, as for example experienced teachers, principals, and superintendents, will naturally be attracted by the opportunity to become intelligent and competent on this phase of education.

The Proposed Department of Education

On February first the Committee on Education of the House of Representatives submitted an adverse report on the bill introduced by Congressman Goulden of New York, to create an executive department of education, which report reads as follows:

The Committee on Education, having under consideration the bill (H. R. 12318) to create an executive department of education, beg to submit the following report:

This measure was introduced by Hon. Joseph A. Goulden and referred to this committee. Action was taken in having four public hearings, at which distinguished educators from the various sections of the country were heard. Among the

number were the former and present superintendent of schools of the city of New York, the superintendents of schools of Philadelphia, Pittsburg, Chicago, and Cleveland, the State superintendents of public instruction of New York and Pennsylvania, the presidents of leading universities, the United States Commissioner of Education, and many other well-known men and women interested in pedagogy.

The arguments were able and interesting, showing, with but three exceptions, a sentiment in favor of creating a department of education, carrying with it an additional member of the Cabinet for its head.

The committee appreciate the work done and the zeal and interest manifested by the author of the bill (Mr. Goulden) and others who appeared, but after giving all the arguments careful consideration the members of the committee feel that for the present at least the legislation now existing confers sufficient authority upon the Bureau of Education to render inadvisable the establishment of a new department in the government service, with the additional expense of a new Cabinet minister. The enactment of this measure into law is therefore not recommended.

We, the undersigned members of the Committee on Education, concur in the report hereto attached and direct the chairman of the committee to report the bill (H. R. 12318) to the House with said report attached as the action of the committee.

JAMES FRANCIS BURKE, *Chairman*	J. G. GRANT
A. J. VOLSTEAD	FINIS J. GARRETT
W. E. TOU VELLE	T. T. ANSBERRY
J. C. NEEDHAM	JOSEPH V. GRAFF
GEO. A. LOUD	ROBT. C. WICKLIFFE
M. P. KINKAID	WM. M. CALDER

This adverse report probably puts an end to this project. In that result we fancy that most persons will gladly concur.

It is to be regretted that the authorities of the Massachusetts Institute of Technology, in apparent forgetfulness of the wise policy which has built up the great colleges and universities of

New England, should now be running to the Legislature of Massachusetts for a subsidy. The authorities of the Institute apparently want to secure state aid without subjecting themselves to direct state control. This is a false policy, and, if the President of the Institute had had more experience of American principles and American traditions, it is hardly possible that he would commit himself to it. The argument for state aid to higher education is a very strong one, but, if state aid is to be given, it must be accompanied by state control. The Massachusetts Institute of Technology surely ought to be strong enough, with a half-century of fine tradition behind it, to trust its future to the generous support of those Americans who find in the endowment of higher education at once an opportunity and a resource.

Once more the difficulty of maintaining in the United States a coherent and consistent public policy in regard to education is evidenced by the fact that in several states where the last elections brought a change of party control in the Legislature, it is now proposed to readjust and reorganize the educational system. Where the purpose of these changes is not purely political and partizan, it appears to represent the same sort of restless desire to interfere with what is already established that is apparent in so many other directions. It is very much to be hoped that good sense will prevail and that there will be no revolutionary or partizan changes made in the several state educational systems, or in the laws governing the administration of the public school system of great cities. In particular we should deplore the institution of paid boards of education. Nothing could be more contrary than this to the best American tradition and to the best American practise.